SEQUENCE LISTING

<110> Jacobs, Kenneth
McCoy, John M.
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Clark, Hilary
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Genetics Institute, Inc.

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Asp Asp Glu Met Met Lys Arg Asn Met Ala Tyr Tyr Lys Ser Leu Pro
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Gly Ala Glu Asp Tyr Ile Lys Asp Leu Glu Thr Lys Ser Tyr Glu Ser
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Leu Phe Ile Arg Ala Val Arg Ala Tyr Asn Gly Glu Asn Trp Arg Thr
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Ser Ile Thr Asp Met Glu Leu Ala Leu Pro Asp Phe Phe Lys Ala Phe
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Tyr Glu Cys Leu Ala Ala Cys Glu Gly Ser Arg Glu Ile Lys Asp Phe
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Lys Asp Phe Tyr Leu Ser Ile Ala Asp His Tyr Val Glu Val Leu Glu
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Cys Lys Ile Gln Cys Glu Glu Asn Leu Thr Pro Val Ile Gly Gly Tyr
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Pro Val Glu Lys Phe Val Ala Thr Met Tyr His Tyr Leu Gln Phe Ala
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Tyr Tyr Lys Leu Asn Asp Leu Lys Asn Ala Ala Pro Cys Ala Val Ser
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Tyr Leu Leu Phe Asp Gln Asn Asp Lys Val Met Gln Gln Asn Leu Val
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Ala Gly Asp Cys Ser Gly Ala Arg Tyr Asn Asp Trp Ser Asp Asp Asp
    50                  55                  60

Asp Asp Ser Asn Glu Ser Lys Ser Ile Val Trp Tyr Pro Pro Trp Ala
65                  70                  75                  80

Arg Ile Gly Thr Glu Ala Gly Thr Arg Thr Arg Ala Arg Ala Arg Ala
                85                  90                  95

Arg Ala Thr Arg Ala Arg Leu Ala Val Gln Lys Arg Ala Ser Pro Asn
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Ser Asp Asp Thr Val Leu Ser Pro Gln Glu Leu Gln Lys Val Leu Cys
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Asp Leu Gly Gly Leu Pro Ile Val Ala Lys Ile Leu Asn Thr Arg Asp
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Asp Asp Thr Ile Thr Ser Arg Leu Asn Ser Ser Val Gln Leu Ala Gly
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Leu Arg Leu Leu Thr Asn Met Thr Val Thr Asn Glu Tyr Gln His Met
225                 230                 235                 240

Leu Ala Asn Ser Ile Ser Asp Phe Phe Arg Leu Phe Ser Ala Gly Asn
                245                 250                 255

Glu Glu Thr Lys Leu Gln Val Leu Lys Leu Leu Leu Asn Leu Ala Glu
            260                 265                 270

Asn Pro Ala Met Thr Arg Glu Leu Leu Arg Ala Gln Val Pro Ser Ser
        275                 280                 285

Leu Gly Ser Leu Phe Asn Lys Lys Glu Asn Lys Glu Val Ile Leu Lys
    290                 295                 300

Leu Leu Val Ile Phe Glu Asn Ile Asn Asp Asn Phe Lys Trp Glu Glu
305                 310                 315                 320

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Leu Lys Glu Phe Gln Val Cys Ala Asp Lys Val Leu Gly Ile Glu Ser
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Gln Val Leu Leu Phe Pro Phe Leu Asn Tyr Tyr Leu Leu Leu Leu Phe
         35                  40                  45

Phe Glu Thr Gly Ser Pro Phe Val Thr Gln Ala Gly Met Gln Arg His
     50                  55                  60

Asp His Cys Ser Leu Gln Leu Arg Pro Pro Arg Leu Lys Gly Val Ser
 65                  70                  75                  80

His Leu Gly Cys Cys His Thr Trp Pro Thr Phe Leu Tyr Phe Phe Gly
                 85                  90                  95

Arg Asp Arg Gly Phe Thr Met Leu Pro Arg Leu Val Leu Asn Phe Trp
            100                 105                 110

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gatcaaacag gttcaaagta aaacgttaaa tttcacattt cttttaaaga actcttaaag 1560
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ttttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa 1969

<210> 8
<211> 74
<212> PRT
<213> Homo sapiens

<400> 8
Met Phe Asp Ile Lys Ala Trp Ala Glu Tyr Val Val Glu Trp Ala Ala
1 5 10 15

Lys Asp Pro Tyr Gly Phe Leu Thr Thr Val Ile Leu Ala Leu Thr Pro
20 25 30

Leu Phe Leu Ala Ser Ala Val Leu Ser Trp Lys Leu Ala Lys Met Ile
35 40 45

Glu Ala Arg Glu Lys Glu Gln Lys Lys Lys Gln Lys Arg Gln Glu Asn
50 55 60

Ile Ala Lys Ala Lys Arg Leu Lys Lys Asp
65 70

<210> 9
<211> 819
<212> DNA
<213> Homo sapiens

<400> 9
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gagcagagga gagtcagcag tctctaaatt atcatcatct cctacctgca catgtacaca 180
aaaataagcc tgaatgcttt ttcttagtat gcaatttgct gtctatttttt aacttgtaca 240
cagagggcca aaaagaaaat tccatgagga catgagagtg cattgaggtt gcaggtatac 300
agtcaccaaa gaacctgaaa taattgccgg aatgatatcc tctaaaagat gtgagcctct 360
cagagagaga gagagagggt tcctcttgca acaggcatcg tgtgtgtgtt ttatgtccct 420

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aaacagatgg aagctttaca tttttgttta gtttttaaga gcagttttta taacatcgct 660
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa                        819

<210> 10
<211> 89
<212> PRT
<213> Homo sapiens

<400> 10
Met Ile Ser Ser Lys Arg Cys Glu Pro Leu Arg Glu Arg Glu Arg Gly
  1               5                  10                  15

Phe Leu Leu Gln Gln Ala Ser Cys Val Cys Phe Met Ser Leu Leu Phe
             20                  25                  30

Cys Cys Cys Ala Leu Asn Ser Val Pro Ala Val Ser Gly Arg Leu Glu
         35                  40                  45

Lys Lys Ile Pro Pro Leu Lys Thr Cys Ser Leu Phe Phe Gln Ser Val
     50                  55                  60

Thr Pro Ala Ile Ser Leu Ala Ser His Gly Ser Val Asn Trp His Thr
 65                  70                  75                  80

Ala Ala Val Arg Gln Trp Lys Lys Ser
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<210> 11
<211> 1969
<212> DNA
<213> Homo sapiens

<400> 11
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<210> 12
<211> 211
<212> PRT
<213> Homo sapiens

<400> 12

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Met Val Phe Leu Lys Phe Phe Cys Met Ser Phe Phe Cys His Leu Cys
  1               5                  10                  15

Gln Gly Tyr Phe Asp Gly Pro Leu Tyr Pro Glu Met Ser Asn Gly Thr
             20                  25                  30

Leu His His Tyr Phe Val Pro Asp Gly Asp Tyr Glu Glu Asn Asp Asp
         35                  40                  45

Pro Glu Lys Cys Gln Leu Leu Phe Arg Val Ser Asp His Arg Arg Cys
     50                  55                  60

Ser Gln Gly Glu Gly Ser Gln Val Gly Ser Leu Leu Ser Leu Thr Leu
 65                  70                  75                  80

Arg Glu Glu Phe Thr Val Leu Gly Arg Gln Val Glu Asp Ala Gly Arg
                 85                  90                  95

Val Leu Glu Gly Ile Ser Lys Ser Ile Ser Tyr Asp Leu Asp Gly Glu
            100                 105                 110

Glu Ser Tyr Gly Lys Tyr Leu Arg Arg Glu Ser His Gln Ile Gly Asp
        115                 120                 125

Ala Tyr Ser Asn Ser Asp Lys Ser Leu Thr Glu Leu Glu Ser Lys Phe
    130                 135                 140

Lys Gln Gly Gln Glu Gln Asp Ser Arg Gln Glu Ser Arg Leu Asn Glu
145                 150                 155                 160

Asp Phe Leu Gly Met Leu Val His Thr Arg Ser Leu Leu Lys Glu Thr
                165                 170                 175

Leu Asp Ile Ser Val Gly Leu Arg Asp Lys Tyr Glu Leu Leu Ala Leu
            180                 185                 190

Thr Ile Arg Ser His Gly Thr Arg Leu Gly Arg Leu Lys Asn Asp Tyr
        195                 200                 205

Leu Lys Val
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<210> 13
<211> 2020
<212> DNA
<213> Homo sapiens

<400> 13
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ccataacatt tcaagaagtg ataacatttc tctgaacaag aaaagaagtg attgaccacg 240
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gtgtctctta attcttattc agggtgctggt aaaccgccta tgtttggtga ttatgaagct 420
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gaaaatgtga acagtgctga aaggttttgt gaacttttg ctatgtataa atgaaattac 1920
cattttgaga accatggaac cacaggaaag gaaatggtga aaagtcattg ttgtctacac 1980
maaataaatg tatatggaga ccaaaaaaaa aaaaaaaaaa 2020

<210> 14
<211> 507
<212> PRT
<213> Homo sapiens

<220>
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<222> (230)

<220>
<221> UNSURE
<222> (236)

<220>
<221> UNSURE
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<221> UNSURE
<222> (476)

<400> 14

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Met Glu Lys Trp Tyr Leu Met Thr Val Val Val Leu Ile Gly Leu Thr
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Val Arg Trp Thr Val Ser Leu Asn Ser Tyr Ser Gly Ala Gly Lys Pro
             20                  25                  30

Pro Met Phe Gly Asp Tyr Glu Ala Gln Arg His Trp Gln Glu Ile Thr
         35                  40                  45

Phe Asn Leu Pro Val Lys Gln Trp Tyr Phe Asn Ser Ser Asp Asn Asn
     50                  55                  60

Leu Gln Tyr Trp Gly Leu Asp Tyr Pro Pro Leu Thr Ala Tyr His Ser
 65                  70                  75                  80

Leu Leu Cys Ala Tyr Val Ala Lys Phe Ile Asn Pro Asp Trp Ile Ala
                 85                  90                  95

Leu His Thr Ser Arg Gly Tyr Glu Ser Gln Ala His Lys Leu Phe Met
            100                 105                 110

Arg Thr Thr Val Leu Ile Ala Asp Leu Leu Ile Tyr Ile Pro Ala Val
        115                 120                 125

Val Leu Tyr Cys Cys Cys Leu Lys Glu Ile Ser Thr Lys Lys Lys Ile
    130                 135                 140

Ala Asn Ala Leu Cys Ile Leu Leu Tyr Pro Gly Leu Ile Leu Ile Asp
145                 150                 155                 160

Tyr Gly His Phe Gln Tyr Asn Ser Val Ser Leu Gly Phe Ala Leu Trp
                165                 170                 175

Gly Val Leu Gly Ile Ser Cys Asp Cys Asp Leu Leu Gly Ser Leu Ala
            180                 185                 190

Phe Cys Leu Ala Ile Asn Tyr Lys Gln Met Glu Leu Tyr His Ala Leu
        195                 200                 205

Pro Phe Phe Cys Phe Leu Leu Gly Lys Cys Phe Lys Lys Gly Leu Lys
    210                 215                 220

Gly Lys Gly Phe Val Xaa Leu Val Lys Leu Ala Xaa Ile Val Val Ala
225                 230                 235                 240

Ser Phe Val Leu Cys Trp Leu Pro Phe Phe Thr Glu Arg Glu Gln Thr
                245                 250                 255

Leu Gln Val Leu Arg Arg Leu Phe Pro Val Asp Arg Gly Leu Phe Glu
            260                 265                 270
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```
Asp Lys Val Ala Asn Ile Trp Cys Ser Phe Asn Val Phe Leu Lys Ile
        275                 280                 285

Lys Asp Ile Leu Pro Arg His Ile Gln Leu Ile Met Ser Phe Cys Phe
    290                 295                 300

Thr Phe Leu Ser Leu Leu Pro Ala Cys Ile Lys Leu Ile Leu Gln Pro
305                 310                 315                 320

Ser Ser Lys Gly Phe Lys Phe Thr Leu Val Ser Cys Ala Leu Ser Phe
                325                 330                 335

Phe Leu Phe Ser Phe Gln Val His Glu Lys Ser Ile Leu Leu Val Ser
            340                 345                 350

Leu Pro Val Cys Leu Val Leu Ser Glu Ile Pro Phe Met Ser Thr Trp
        355                 360                 365

Phe Leu Leu Val Ser Thr Phe Ser Met Leu Pro Leu Leu Leu Lys Asp
    370                 375                 380

Glu Leu Leu Met Pro Ser Val Val Thr Thr Met Ala Phe Phe Ile Ala
385                 390                 395                 400

Cys Val Thr Ser Phe Ser Ile Phe Glu Lys Thr Ser Glu Glu Glu Leu
                405                 410                 415

Gln Leu Lys Ser Phe Ser Ile Ser Val Arg Lys Tyr Leu Pro Cys Xaa
            420                 425                 430

Thr Phe Leu Ser Arg Ile Xaa Gln Tyr Leu Phe Leu Ile Ser Val Ile
        435                 440                 445

Thr Met Val Leu Leu Thr Leu Met Thr Val Thr Leu Asp Pro Pro Gln
    450                 455                 460

Lys Leu Pro Asp Leu Phe Ser Val Leu Val Cys Xaa Val Ser Cys Leu
465                 470                 475                 480

Asn Phe Leu Phe Phe Leu Val Tyr Phe Asn Ile Ile Ile Met Trp Asp
                485                 490                 495

Ser Lys Ser Gly Arg Asn Gln Lys Lys Ile Ser
            500                 505
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<210> 15
<211> 940
<212> DNA
<213> Homo sapiens

<400> 15
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ttgggggccc gagaaaacag aaggaagatg ctccagacca gtaactacag cctggtgctc 180
tctctgcagt tcctgctgct gtcctatgac ctctttgtca attcctttctc agaactgctc 240
caaaagactc ctgtcatcca gcttgtgctc ttcatcatcc aggatattgc agtcctcttc 300
aacatcatca tcatttttcct catgttcttc aacacctttcg tctttccaggc tggcctggtc 360
aacctcctat tccataagtt caaagggacc atcatcctga cagctgtgta ctttgccctc 420
agcatctccc ttcatgtctg ggtcatgaac ttacgctgga aaaactccaa cagcttcata 480
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ttttccaatt tggagtcact gaaaactaag ctgtgctttc ataaagccct gcaaactgaa 660
tctagacaac ttcagaagaa aaataacagc aacctattta catacataag ccactttcat 720
acctgcctac cgatgtatgg acttcagagt aatgtggctt atagcaattt tccaggattg 780
ttcttttgtt tgttgttgtt ctcccttcct ccccctattt tgtcttttatg ggacatgaca 840
cttcacaacc ttctaaaaat gagttttcct aataactcag gacctactcg tctagaaata 900
aaccatccta gccatgagag ataagataaa aaaaaaaaaa                       940

<210> 16
<211> 130
<212> PRT
<213> Homo sapiens

<400> 16
Met Leu Gln Thr Ser Asn Tyr Ser Leu Val Leu Ser Leu Gln Phe Leu
  1               5                  10                  15

Leu Leu Ser Tyr Asp Leu Phe Val Asn Ser Phe Ser Glu Leu Leu Gln
            20                  25                  30

Lys Thr Pro Val Ile Gln Leu Val Leu Phe Ile Ile Gln Asp Ile Ala
        35                  40                  45

Val Leu Phe Asn Ile Ile Ile Ile Phe Leu Met Phe Phe Asn Thr Phe
    50                  55                  60

Val Phe Gln Ala Gly Leu Val Asn Leu Leu Phe His Lys Phe Lys Gly
65                  70                  75                  80

Thr Ile Ile Leu Thr Ala Val Tyr Phe Ala Leu Ser Ile Ser Leu His
                85                  90                  95

Val Trp Val Met Asn Leu Arg Trp Lys Asn Ser Asn Ser Phe Ile Trp
            100                 105                 110

Thr Asp Gly Leu Gln Met Leu Phe Val Phe Gln Arg Leu Val Trp Thr
        115                 120                 125

Glu Phe
    130


<210> 17
<211> 1348
<212> DNA
<213> Homo sapiens

<400> 17
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tccttgcaca gaaggtcatg tacttattag tccctcttct taaccgaggg aatgataaac 180
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tagagaacca agtcctggac agcttggtcc cactacttct gtattctcag gatgaaaatg 660
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<210> 18
<211> 362
<212> PRT
<213> Homo sapiens

<400> 18

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Met Glu Lys Asn Lys Gly Trp Ala Leu Leu Gly Gly Lys Asp Gly His
  1               5                  10                  15

Leu Gln Gly Leu Phe Leu Leu Ala Asn Ala Leu Leu Glu Arg Asn Gln
            20                  25                  30

Leu Leu Ala Gln Lys Val Met Tyr Leu Leu Val Pro Leu Leu Asn Arg
        35                  40                  45

Gly Asn Asp Lys His Lys Leu Thr Ser Ala Gly Phe Phe Val Glu Leu
    50                  55                  60

Leu Arg Ser Pro Val Ala Lys Arg Leu Pro Ser Ile Tyr Ser Val Ala
65                  70                  75                  80

Arg Phe Lys Asp Trp Leu Gln Asp Gly Asn His Leu Phe Arg Ile Leu
                85                  90                  95

Gly Leu Arg Gly Leu Tyr Asn Leu Val Gly His Gln Glu Met Arg Glu
            100                 105                 110

Asp Ile Lys Ser Leu Leu Pro Tyr Ile Val Asp Ser Leu Arg Glu Thr
        115                 120                 125

Asp Glu Lys Ile Val Leu Ser Ala Ile Gln Ile Leu Leu Gln Leu Val
    130                 135                 140

Arg Thr Met Asp Phe Thr Thr Leu Ala Ala Met Met Arg Thr Leu Phe
145                 150                 155                 160

Ser Leu Phe Gly Asp Val Arg Ser Asp Val His Arg Phe Ser Val Thr
                165                 170                 175

Leu Phe Gly Ala Ala Ile Lys Ser Val Lys Asn Pro Asp Lys Lys Ser
            180                 185                 190

Ile Glu Asn Gln Val Leu Asp Ser Leu Val Pro Leu Leu Leu Tyr Ser
        195                 200                 205

Gln Asp Glu Asn Asp Ala Val Ala Glu Glu Ser Arg Gln Val Leu Thr
    210                 215                 220
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```
Ile Cys Ala Gln Phe Leu Lys Trp Lys Leu Pro Gln Glu Val Tyr Ser
225                 230                 235                 240

Lys Asp Pro Trp His Ile Lys Pro Thr Glu Ala Gly Thr Ile Cys Arg
                245                 250                 255

Phe Phe Glu Lys Lys Cys Lys Gly Lys Ile Asn Ile Leu Glu Gln Thr
            260                 265                 270

Leu Met Tyr Ser Lys Asn Pro Lys Leu Pro Ile Arg Arg Ser Ala Val
        275                 280                 285

Leu Phe Val Gly Leu Leu Ser Lys Tyr Met Asp His Asn Glu Leu Arg
    290                 295                 300

Arg Met Gly Thr Asp Trp Ile Glu Asp Asp Leu Arg Asp Leu Leu Cys
305                 310                 315                 320

Asp Pro Glu Pro Ser Leu Cys Ile Ile Ala Ser Gln Thr Leu Leu Leu
                325                 330                 335

Val Gln Met Ala Arg Ala Glu Pro Lys Pro Lys Gln Arg Val Asn Trp
            340                 345                 350

Leu Gln Lys Leu Met Gly Arg Ser Ser Ala
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<210> 19
<211> 1656
<212> DNA
<213> Homo sapiens

<400> 19
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<210> 20
<211> 236
<212> PRT
<213> Homo sapiens

<400> 20
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20 25 30

Ala Cys Pro Ala Leu Gly Thr Lys Ser Cys Ser Ser Ser Cys Ala Val
35 40 45

His Asp Leu Ile Phe Trp Arg Asp Val Lys Lys Thr Gly Phe Val Phe
50 55 60

Gly Thr Thr Leu Ile Met Leu Leu Ser Leu Ala Ala Phe Ser Val Ile
65 70 75 80

Ser Val Val Ser Tyr Leu Ile Leu Ala Leu Leu Ser Val Thr Ile Ser
85 90 95

Phe Arg Ile Tyr Lys Ser Val Ile Gln Ala Val Gln Lys Ser Glu Glu
100 105 110

Gly His Pro Phe Lys Ala Tyr Leu Asp Val Asp Ile Thr Leu Ser Ser
115 120 125

Glu Ala Phe His Asn Tyr Met Asn Ala Ala Met Val His Ile Asn Arg
130 135 140

Ala Leu Lys Leu Ile Ile Arg Leu Phe Leu Val Glu Asp Leu Val Asp
145 150 155 160

Ser Leu Lys Leu Ala Val Phe Met Trp Leu Met Thr Tyr Val Gly Ala
165 170 175

Val Phe Asn Gly Ile Thr Leu Leu Ile Leu Ala Glu Leu Leu Ile Phe
180 185 190

Ser Val Pro Ile Val Tyr Glu Lys Tyr Lys Thr Gln Ile Asp His Tyr
195 200 205

Val Gly Ile Ala Arg Asp Gln Thr Lys Ser Ile Val Glu Lys Ile Gln
210 215 220

Ala Lys Leu Pro Gly Ile Ala Lys Lys Lys Ala Glu
225 230 235

<210> 21
<211> 2439
<212> DNA
<213> Homo sapiens

<400> 21
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<210> 22
<211> 47
<212> PRT
<213> Homo sapiens

<400> 22
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Leu Ser Phe Trp Ile Val Ile Ile Tyr Leu Ile Ala Cys Leu Ser Ala
            20   25   30

Ser Phe Cys Val Ser Asn Asn Lys Asp His Ile Phe Leu Val Asn
        35   40   45

<210> 23
<211> 1132
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1009)

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<210> 24
<211> 98
<212> PRT
<213> Homo sapiens

<400> 24
Met Val Tyr Phe Lys Phe Ile Lys Leu Ile Cys Met Cys Leu Phe Val
 1   5   10   15

Leu Leu Leu Leu Arg Gly Leu Gly Leu Gly Ser Trp Gln Pro Ala Leu
            20   25   30

Met Tyr Phe Ser Pro Leu Tyr Phe Ile Ile Phe Leu Lys Ser Ser Asn
        35   40   45

Leu Asn Thr Trp Thr Ser Tyr Trp Ile Thr Leu Ile His Ile Phe Ile
    50   55   60

Ile Leu Ser Ile His Phe Ala Thr Tyr Thr Pro Cys Asp Asp Phe Lys
65   70   75   80

Pro Asp Phe Cys Ile Glu Asn Val Lys Arg Met Ala Phe Phe Arg Gly
                85   90   95

Ser Lys

<210> 25
<211> 401

<212> DNA
<213> Homo sapiens

<400> 25
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gtggctaaat aaccaaacat ttgtgtaaaa aaaaaaaaaa a 401

<210> 26
<211> 38
<212> PRT
<213> Homo sapiens

<400> 26
Met Glu Met Val Ser Lys Lys Phe Tyr Phe Ser Phe Phe Cys Leu Tyr
1 5 10 15

Thr Leu Ile Pro Ile Ile Gln Cys Tyr Lys Leu Cys Thr Glu Asn Lys
20 25 30

Met Phe Glu Ile Gln Glu
35

<210> 27
<211> 755
<212> DNA
<213> Homo sapiens

<400> 27
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catggtggca catgcctgta atcccagcta ctcaggaggc tgaggaagga gaatatcagg 660
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acagagtgag actctgtctc aaaaaaaaaa aaaaa 755

<210> 28
<211> 86
<212> PRT
<213> Homo sapiens

<400> 28
Met Leu Gly Cys Phe Ser Leu Leu Leu Ser Gln Ile Met Leu Gln Arg
1 5 10 15

Ile His Leu Phe Ile Cys His Phe Ile Leu Gly Asn Phe Ala Ser Gly
20 25 30

```
Lys Phe Leu Glu Val Arg Phe Pro Gly Gln Arg Leu Asn Ala His Val
         35                  40                  45

Ile Leu Leu Asp Ile Val Lys Ser Pro Tyr Arg Ala Cys Thr Thr Gln
     50                  55                  60

His Ser Pro Gln Arg Cys Met Arg Gly Thr Ile Ser Pro Trp Pro His
 65                  70                  75                  80

Gln Gln Ile Trp Leu Leu
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<210> 29
<211> 885
<212> DNA
<213> Homo sapiens

<400> 29
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<210> 30
<211> 186
<212> PRT
<213> Homo sapiens

<400> 30
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Met Lys Met Gln Lys Gly Asn Val Leu Leu Met Phe Gly Leu Leu Leu
  1               5                  10                  15

His Leu Glu Ala Ala Thr Asn Ser Asn Glu Thr Ser Thr Ser Ala Asn
             20                  25                  30

Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser
         35                  40                  45

Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala Thr Ile Ser Gly
     50                  55                  60

Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val Thr Asn Ser Glu Phe
 65                  70                  75                  80

His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser
                 85                  90                  95

Thr Ala Ser Ser Gly Ile Ser Ile Ala Thr Asn Ser Glu Ser Ser Thr
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```
            100                 105                 110

Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Pro
        115                 120                 125

Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser
    130                 135                 140

Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Leu Gly Asn Lys
145                 150                 155                 160

Ser Gly Thr Leu Phe Gln Lys Arg Lys Lys Glu Ile Gln Leu Pro Leu
                165                 170                 175

Lys Val Gln Leu Tyr Ser Val Ile Asp Lys
            180                 185
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<210> 31
<211> 3285
<212> DNA
<213> Homo sapiens

<400> 31

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<210> 32
<211> 184
<212> PRT
<213> Homo sapiens

<400> 32

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Met Ile Ser Phe Ala Val Gln Lys Leu Phe Ser Ser Met Gln Ser Cys
  1               5                  10                  15

Met Phe Ile Phe Leu Leu Leu Leu Val Leu Leu Gly Ser Tyr Ala Arg
            20                  25                  30

Ser Asp Thr Thr Leu Lys Pro Arg Pro Val Ser Trp Ser Phe Ser Pro
        35                  40                  45

Val Phe Ser Ser Thr Gly Phe Thr Val Ser Gly Leu Thr Ile Lys Pro
    50                  55                  60

Leu Ser Ile Leu Asn Gly Phe Leu Cys Arg Asp Ile Pro Ser Thr Arg
65                  70                  75                  80

Ala Ser Ser Gly Leu Ala Asp Ala Pro Pro Ser Pro Leu Cys Pro Leu
                85                  90                  95

His Ser Thr Leu Phe Met Trp Lys Asn Pro Trp His Pro Arg Val Ala
            100                 105                 110

Ser Leu Ser Tyr Pro Ala Pro His Gly Asp Leu Thr Leu Ala Ser Leu
        115                 120                 125

Thr Trp Val Ser Leu Pro Asn Pro Leu Pro Gly Pro Thr Thr Ala Ser
    130                 135                 140

Ile Pro Asp Leu Pro Arg Gly Pro Ile Pro Ala Val Leu Arg His Leu
145                 150                 155                 160

Arg Ala Val Ser Glu Leu Phe Ser Leu Thr Val His Asn Arg Ser Ala
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Lys Glu Ser Cys Arg Leu Phe Leu
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180

<210> 33
<211> 1819
<212> DNA
<213> Homo sapiens

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tgggaggccg aggcaggtgg atcgtgaggt caggagatca agaccatcct ggctaacacg 180
gtgaaacccc atctctacta aaaatacaaa aaattcgccg ggcgtggtgg caggcgcctg 240
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tgcagtgagc cgagatcgcg ccactgcact ccagcctggg tgacagaccg agactctgtc 360
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ctacgctctt taatttttaca aaatcatgga ttttcgtggt gatagcaatg gatgcgaaga 480
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atctatatta acatctctaa atgagatcag ccagatgaac ttgatgtgat gaaatggata 600
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<211> 75
<212> PRT
<213> Homo sapiens

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 1   5   10   15

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            20   25   30

Arg Ile Lys Ala Pro Ser Gly Gln Ser Ile Arg Asn Thr Glu Asn Lys
        35   40   45

Glu Asn Ile Val Asn Thr Arg Phe Glu Gly Ile Lys Cys Leu Tyr Ile
    50   55   60

Leu Tyr Lys Cys Lys His Gly Leu Val Thr Lys

65 70 75

<210> 35
<211> 1269
<212> DNA
<213> Homo sapiens

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gtcatgaaga tcaaatgaga gaataaaagt caagcactta gcctctggtg cacaataagt 840
attaaataag tatacctatt cctccttttc ctttttttaaa aataatatta ccaaatgtcc 900
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<210> 36
<211> 100
<212> PRT
<213> Homo sapiens

<400> 36
Met Asn Val Lys Gly Lys Val Ile Leu Ser Met Leu Val Val Ser Thr
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Val Ile Ile Val Phe Trp Glu Phe Ile Asn Ser Thr Glu Gly Ser Phe
20 25 30

Leu Trp Ile Tyr His Ser Lys Asn Pro Glu Val Asp Asp Ser Ser Ala
35 40 45

Gln Lys Gly Trp Trp Phe Leu Ser Trp Phe Asn Asn Gly Ile His Asn
50 55 60

Tyr Gln Gln Gly Glu Glu Asp Ile Asp Lys Glu Lys Gly Arg Glu Glu
65 70 75 80

Thr Lys Gly Arg Lys Met Thr Gln Gln Ser Phe Gly Tyr Gly Thr Gly
85 90 95

Leu Ile Gln Thr
100

<210> 37
<211> 232
<212> DNA
<213> Homo sapiens

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tgggggctggc aggggttggt tggagggagg agagaagaca gaggagcact taaggtgcaa 180
agcagcctat ttttttcttca ataaaaattg ttaagagaaa aaaaaaaaaa aa 232

<210> 38
<211> 57
<212> PRT
<213> Homo sapiens

<400> 38
Met Trp Pro His Pro Gly Leu Val Tyr Tyr Leu Val Ile Asn Leu Trp
1 5 10 15

Ile Leu Lys Thr Ala Val Phe Pro His Phe Val Met Arg Val Trp Gly
20 25 30

Trp Gln Gly Leu Val Gly Gly Arg Arg Glu Asp Arg Gly Ala Leu Lys
35 40 45

Val Gln Ser Ser Leu Phe Phe Leu Gln
50 55

<210> 39
<211> 1135
<212> DNA
<213> Homo sapiens

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<210> 40
<211> 54
<212> PRT
<213> Homo sapiens

<400> 40
Met Lys Phe Gln Leu Leu Asn Leu Leu Pro Tyr Pro Gly Leu Trp Thr
1 5 10 15

Gln Thr Gly Leu Glu Pro Gln Ser Leu Phe Pro Ser Ser Pro Ser Ser
20 25 30

Pro Cys Gly Leu Pro Gly Leu Ser Ile Cys Tyr Cys Ala Val Leu Gly
35 40 45

Ile Gly Ala Glu Val Ala
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<210> 41
<211> 4292
<212> DNA
<213> Homo sapiens

<400> 41
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<210> 42
<211> 1369
<212> PRT
<213> Homo sapiens

<400> 42
Met Ala Lys Phe Gly Val His Arg Ile Leu Leu Leu Ala Ile Ser Leu
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Thr Lys Cys Leu Glu Ser Thr Lys Leu Leu Ala Asp Leu Lys Lys Cys
            20   25   30

Gly Asp Leu Glu Cys Glu Ala Leu Ile Asn Arg Val Ser Ala Met Arg
        35   40   45

Asp Tyr Arg Gly Pro Asp Cys Arg Tyr Leu Asn Phe Thr Lys Gly Glu
    50   55   60

Glu Ile Ser Val Tyr Val Lys Leu Ala Gly Glu Arg Glu Asp Leu Trp
 65   70   75   80

Ala Gly Ser Lys Gly Lys Glu Phe Gly Tyr Phe Pro Arg Asp Ala Val
                85   90   95

Gln Ile Glu Glu Val Phe Ile Ser Glu Glu Ile Gln Met Ser Thr Lys
            100   105   110

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Glu Ser Asp Phe Leu Cys Leu Leu Gly Val Ser Tyr Thr Phe Asp Asn
        115                 120                 125

Glu Asp Ser Glu Leu Asn Gly Asp Tyr Gly Glu Asn Ile Tyr Pro Tyr
    130                 135                 140

Glu Glu Asp Lys Asp Glu Lys Ser Ser Ile Tyr Glu Ser Asp Phe Gln
145                 150                 155                 160

Ile Glu Pro Gly Phe Tyr Ala Thr Tyr Glu Ser Thr Leu Phe Glu Asp
                165                 170                 175

Gln Val Pro Ala Leu Glu Ala Pro Glu Asp Ile Gly Ser Thr Ser Glu
            180                 185                 190

Ser Lys Asp Trp Glu Glu Val Val Val Glu Ser Met Glu Gln Asp Arg
        195                 200                 205

Ile Pro Glu Val His Val Pro Pro Ser Ser Ala Val Ser Gly Val Lys
    210                 215                 220

Glu Trp Phe Gly Leu Gly Gly Glu Gln Ala Glu Glu Lys Ala Phe Glu
225                 230                 235                 240

Ser Val Ile Glu Pro Val Gln Glu Ser Ser Phe Arg Ser Arg Lys Ile
                245                 250                 255

Ala Val Glu Asp Glu Asn Asp Leu Glu Glu Leu Asn Asn Gly Glu Pro
            260                 265                 270

Gln Thr Glu His Gln Gln Glu Ser Glu Ser Glu Ile Asp Ser Val Pro
        275                 280                 285

Lys Thr Gln Ser Glu Leu Ala Ser Glu Ser Glu His Ile Pro Lys Pro
    290                 295                 300

Gln Ser Thr Gly Trp Phe Gly Gly Gly Phe Thr Ser Tyr Leu Gly Phe
305                 310                 315                 320

Gly Asp Glu Asp Thr Gly Leu Glu Leu Ile Ala Glu Glu Ser Asn Pro
                325                 330                 335

Pro Leu Gln Asp Phe Pro Asn Pro Ile Ser Ser Asp Lys Glu Ala Thr
            340                 345                 350

Val Pro Cys Thr Glu Ile Leu Thr Glu Lys Lys Asp Thr Ile Thr Asn
        355                 360                 365

Asp Ser Leu Ser Leu Lys Pro Ser Trp Phe Asp Phe Gly Phe Ala Ile
    370                 375                 380

Leu Gly Phe Ala Tyr Ala Lys Glu Asp Lys Ile Met Leu Asp Asp Arg
385                 390                 395                 400

Lys Asn Glu Glu Asp Gly Gly Ala Asp Glu His Glu His Pro Leu Thr
                405                 410                 415

Ser Glu Leu Asp Pro Glu Lys Glu Gln Glu Ile Glu Thr Ile Lys Ile
            420                 425                 430
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Ile Glu Thr Glu Asp Gln Ile Asp Lys Lys Pro Val Ser Glu Lys Thr
        435                 440                 445

Asp Glu Ser Asp Thr Ile Pro Tyr Leu Lys Lys Phe Leu Tyr Asn Phe
    450                 455                 460

Asp Asn Pro Trp Asn Phe Gln Asn Ile Pro Lys Glu Thr Glu Leu Pro
465                 470                 475                 480

Phe Pro Lys Gln Ile Leu Asp Gln Asn Asn Val Ile Glu Asn Glu Glu
                485                 490                 495

Thr Gly Glu Phe Ser Ile Asp Asn Tyr Pro Thr Asp Asn Thr Lys Val
            500                 505                 510

Met Ile Phe Lys Ser Ser Tyr Ser Leu Ser Asp Met Val Ser Asn Ile
        515                 520                 525

Glu Leu Pro Thr Arg Ile His Glu Glu Val Tyr Phe Glu Pro Ser Ser
    530                 535                 540

Ser Lys Asp Ser Asp Glu Asn Ser Lys Pro Ser Val Asp Thr Glu Gly
545                 550                 555                 560

Pro Ala Leu Val Glu Ile Asp Arg Ser Val Glu Asn Thr Leu Leu Asn
                565                 570                 575

Ser Gln Met Val Ser Thr Asp Asn Ser Leu Ser Ser Gln Asn Tyr Ile
            580                 585                 590

Ser Gln Lys Glu Asp Ala Ser Glu Phe Gln Ile Leu Lys Tyr Leu Phe
        595                 600                 605

Gln Ile Asp Val Tyr Asp Phe Met Asn Ser Ala Phe Ser Pro Ile Val
    610                 615                 620

Ile Leu Thr Glu Arg Val Val Ala Ala Leu Pro Glu Gly Met Arg Pro
625                 630                 635                 640

Asp Ser Asn Leu Tyr Gly Phe Pro Trp Glu Leu Val Ile Cys Ala Ala
                645                 650                 655

Val Val Gly Phe Phe Ala Val Leu Phe Phe Leu Trp Arg Ser Phe Arg
            660                 665                 670

Ser Val Arg Ser Arg Leu Tyr Val Gly Arg Glu Lys Lys Leu Ala Leu
        675                 680                 685

Met Leu Ser Gly Leu Ile Glu Glu Lys Ser Lys Leu Leu Glu Lys Phe
    690                 695                 700

Ser Leu Val Gln Lys Glu Tyr Glu Gly Tyr Glu Val Glu Ser Ser Leu
705                 710                 715                 720

Lys Asp Ala Ser Phe Glu Lys Glu Ala Thr Glu Ala Gln Ser Leu Glu
                725                 730                 735

Ala Thr Cys Glu Lys Leu Asn Arg Ser Asn Ser Glu Leu Glu Asp Glu
            740                 745                 750
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Ile Leu Cys Leu Glu Lys Glu Leu Lys Glu Glu Lys Ser Lys His Ser
        755                 760                 765

Glu Gln Asp Glu Leu Met Ala Asp Ile Ser Lys Arg Ile Gln Ser Leu
    770                 775                 780

Glu Asp Glu Ser Lys Ser Leu Lys Ser Gln Val Ala Glu Ala Lys Met
785                 790                 795                 800

Thr Phe Lys Ile Phe Gln Met Asn Glu Glu Arg Leu Lys Ile Ala Ile
                805                 810                 815

Lys Asp Ala Leu Asn Glu Asn Ser Gln Leu Gln Glu Ser Gln Lys Gln
            820                 825                 830

Leu Leu Gln Glu Ala Glu Val Trp Lys Glu Gln Val Ser Glu Leu Asn
        835                 840                 845

Lys Gln Lys Val Thr Phe Glu Asp Ser Lys Val His Ala Glu Gln Val
    850                 855                 860

Leu Asn Asp Lys Glu Ser His Ile Lys Thr Leu Thr Glu Arg Leu Leu
865                 870                 875                 880

Lys Met Lys Asp Trp Ala Ala Met Leu Gly Glu Asp Ile Thr Asp Asp
                885                 890                 895

Asp Asn Leu Glu Leu Glu Met Asn Ser Glu Ser Glu Asn Gly Ala Tyr
            900                 905                 910

Leu Asp Asn Pro Pro Lys Gly Ala Leu Lys Lys Leu Ile His Ala Ala
        915                 920                 925

Lys Leu Asn Ala Ser Leu Lys Thr Leu Glu Gly Glu Arg Asn Gln Ile
    930                 935                 940

Tyr Ile Gln Leu Ser Glu Val Asp Lys Thr Lys Glu Glu Leu Thr Glu
945                 950                 955                 960

His Ile Lys Asn Leu Gln Thr Gln Gln Ala Ser Leu Gln Ser Glu Asn
                965                 970                 975

Thr His Phe Glu Asn Glu Asn Gln Lys Leu Gln Gln Lys Leu Lys Val
            980                 985                 990

Met Thr Glu Leu Tyr Gln Glu Asn Glu Met Lys Leu His Arg Lys Leu
        995                1000                1005

Thr Val Glu Glu Asn Tyr Arg Leu Glu Lys Glu Glu Lys Leu Ser Lys
   1010                1015                1020

Val Asp Glu Lys Ile Ser His Ala Thr Glu Glu Leu Glu Thr Tyr Arg
1025                1030                1035                1040

Lys Arg Ala Lys Asp Leu Glu Glu Glu Leu Glu Arg Thr Ile His Ser
               1045                1050                1055

Tyr Gln Gly Gln Ile Ile Ser His Glu Lys Lys Ala His Asp Asn Trp
           1060                1065                1070
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Leu Ala Ala Arg Asn Ala Glu Arg Asn Leu Asn Asp Leu Arg Lys Glu
      1075                1080                1085

Asn Ala His Asn Arg Gln Lys Leu Thr Glu Thr Glu Leu Lys Phe Glu
   1090                1095                1100

Leu Leu Glu Lys Asp Pro Tyr Ala Leu Asp Val Pro Asn Thr Ala Phe
1105                1110                1115                1120

Gly Arg Gly Ser Arg Gly Pro Gly Asn Pro Leu Asp His Gln Ile Thr
                1125                1130                1135

Asn Glu Arg Gly Glu Ser Ser Cys Asp Arg Leu Thr Asp Pro His Arg
            1140                1145                1150

Ala Pro Ser Asp Thr Gly Ser Leu Ser Pro Pro Trp Asp Gln Asp Arg
        1155                1160                1165

Arg Met Met Phe Pro Pro Pro Gly Gln Ser Tyr Pro Asp Ser Ala Leu
    1170                1175                1180

Pro Pro Gln Arg Gln Asp Arg Phe Cys Ser Asn Ser Gly Arg Leu Ser
1185                1190                1195                1200

Gly Pro Ala Glu Leu Arg Ser Phe Asn Met Pro Ser Leu Asp Lys Met
                1205                1210                1215

Asp Gly Ser Met Pro Ser Glu Met Glu Ser Ser Arg Asn Asp Thr Lys
            1220                1225                1230

Asp Asp Leu Gly Asn Leu Asn Val Pro Asp Ser Ser Leu Pro Ala Glu
        1235                1240                1245

Asn Glu Ala Thr Gly Pro Gly Phe Val Pro Pro Pro Leu Ala Pro Ile
    1250                1255                1260

Arg Gly Pro Leu Phe Pro Val Asp Ala Arg Gly Pro Phe Leu Arg Arg
1265                1270                1275                1280

Gly Pro Pro Phe Pro Pro Pro Pro Pro Gly Ala Met Phe Gly Ala Ser
                1285                1290                1295

Arg Asp Tyr Phe Pro Pro Arg Asp Phe Pro Gly Pro Pro Pro Ala Pro
            1300                1305                1310

Phe Ala Met Arg Asn Val Tyr Pro Pro Arg Gly Phe Pro Pro Tyr Leu
        1315                1320                1325

Pro Pro Arg Pro Gly Phe Phe Pro Pro Pro Pro His Ser Glu Gly Arg
    1330                1335                1340

Ser Glu Phe Pro Ser Gly Leu Ile Pro Pro Ser Asn Glu Pro Ala Thr
1345                1350                1355                1360

Glu His Pro Glu Pro Gln Gln Glu Thr
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<210> 43

<211> 412
<212> DNA
<213> Homo sapiens

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gcactccagc ctgggcgaca gagcgagacc ccatctcaaa aaaaaaaaaa aa 412

<210> 44
<211> 49
<212> PRT
<213> Homo sapiens

<400> 44
Met Gly Pro Val Leu Gly Gly Arg Arg Ala Leu Met Gly Pro Asp Ser
1 5 10 15

Arg Pro Gly Pro Val Pro Ser Cys Ser Leu Val Leu Leu Thr Pro Leu
20 25 30

Ala Pro Leu Pro Leu Thr Ala Arg Glu Ser Leu Cys Pro Cys Pro Pro
35 40 45

Ser

<210> 45
<211> 1317
<212> DNA
<213> Homo sapiens

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aagccatgtg taacagagct tagacatcca aaactaatca atgctgaggt ggctaaatac 180
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<210> 46
<211> 48
<212> PRT
<213> Homo sapiens

<400> 46
Met Phe Phe Ile Ser Arg Val Phe Pro Phe Pro Ser Glu Ile Leu Ile
1 5 10 15

Leu Ser Ile Phe Leu Arg Leu Leu Phe Ile Ser Phe Leu Lys Ala Leu
20 25 30

Leu Leu Trp His Phe Ser Ile Thr Phe Ser Phe Leu Cys Thr Val Ala
35 40 45

<210> 47
<211> 1442
<212> DNA
<213> Homo sapiens

<400> 47
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aa 1442

<210> 48
<211> 247
<212> PRT
<213> Homo sapiens

<400> 48
Met Leu Arg Phe Ile Gln Lys Phe Ser Gln Ala Ser Ser Lys Ile Leu
1 5 10 15

Lys Tyr Ser Phe Pro Val Gly Leu Arg Thr Ser Arg Thr Asp Ile Leu
20 25 30

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Ser Leu Lys Met Ser Leu Gln Gln Asn Phe Ser Pro Cys Pro Arg Pro
          35                  40                  45

Trp Leu Ser Ser Ser Phe Pro Ala Tyr Met Ser Lys Thr Gln Cys Tyr
      50                  55                  60

His Thr Ser Pro Cys Ser Phe Lys Lys Gln Gln Lys Gln Ala Leu Leu
 65                  70                  75                  80

Ala Arg Pro Ser Ser Thr Ile Thr Tyr Leu Thr Asp Ser Pro Lys Pro
                 85                  90                  95

Ala Leu Cys Val Thr Leu Ala Gly Leu Ile Pro Phe Val Ala Pro Pro
            100                 105                 110

Leu Val Met Leu Met Thr Lys Thr Tyr Ile Pro Ile Leu Ala Phe Thr
        115                 120                 125

Gln Met Ala Tyr Gly Ala Ser Phe Leu Ser Phe Leu Gly Gly Ile Arg
    130                 135                 140

Trp Gly Phe Ala Leu Pro Glu Gly Ser Pro Ala Lys Pro Asp Tyr Leu
145                 150                 155                 160

Asn Leu Ala Ser Ser Ala Ala Pro Leu Phe Phe Ser Trp Phe Ala Phe
                165                 170                 175

Leu Ile Ser Glu Arg Leu Ser Glu Ala Ile Val Thr Val Ile Met Gly
            180                 185                 190

Met Gly Val Ala Phe His Leu Glu Leu Phe Leu Leu Pro His Tyr Pro
        195                 200                 205

Asn Trp Phe Lys Ala Leu Arg Ile Val Val Thr Leu Leu Ala Thr Phe
    210                 215                 220

Ser Phe Ile Ile Thr Leu Val Val Lys Ser Ser Phe Pro Glu Lys Gly
225                 230                 235                 240

His Lys Arg Pro Gly Gln Val
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<211> 2696
<212> DNA
<213> Homo sapiens

<400> 49

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<210> 50
<211> 73
<212> PRT
<213> Homo sapiens

<400> 50
Met Asn Ser Phe Ala Tyr His Ser His Pro Pro Leu Gly Ser Arg Phe
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Leu Gln Thr His Ser Leu Glu Ser Gly Ser Gln Ser Ala Gly Ser Arg
20 25 30

Thr Pro Leu Thr Gln Thr His Leu Arg Arg Leu Gly Leu Leu Lys Ser
35 40 45

Val Cys Leu Gly Cys Leu Cys Asn Asn Pro Ser Leu Phe Ile Phe Leu
50 55 60

Gly Asp Pro Leu Pro Ser Gln Pro Gly
65 70

<210> 51
<211> 2791

<212> DNA
<213> Homo sapiens

<400> 51
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<210> 52
<211> 219
<212> PRT
<213> Homo sapiens

<400> 52
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                20                  25                  30

Pro Ser Phe Val Leu Val Thr Arg Pro Val Ser Ser Thr Met Lys Ile
            35                  40                  45

Arg Phe Arg Phe Leu Ser Pro Gly Leu Ile Ser Phe Thr Lys Val Ser
        50                  55                  60

Val Val Met Leu Pro Glu Pro Arg His Pro Thr Gly Trp Gly Ile Glu
 65                  70                  75                  80

Asp Glu Gly Ser Met Leu Gly Ser Phe Ala Pro Met Leu His Phe Pro
                85                  90                  95

Arg Pro Thr Tyr Pro Ile Arg Met Gly Ser Gly Ser Leu Asn Pro Ser
            100                 105                 110

Asn Pro Ser Lys Arg Leu Lys Lys Asn Ile Pro Gly Gly Leu Gln Leu
        115                 120                 125

Gln Asp Gln Asn Leu Gly Val Ser Gly Gln Ala Ala Leu Gly Leu Glu
    130                 135                 140

Gly Pro Leu Pro Gly Cys Ser Phe Ser Leu Lys Pro Arg Ser Gly Gly
145                 150                 155                 160

Ala Asp Val Asp Arg Gly Arg Glu Pro Gly Ala Gln Pro Gly Ser Arg
                165                 170                 175

Ile Leu Leu Ala Arg Ser Ser Gly Thr Leu Ile Pro Thr Ser Arg Asp
            180                 185                 190

Ser Val His Pro Leu Pro Tyr Arg Gln Pro Thr Thr His Pro Ser Gln
        195                 200                 205

Pro Ala Gly Leu Cys Arg Gly Trp Lys Leu Leu
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<210> 53
<211> 1527
<212> DNA
<213> Homo sapiens

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ccactgacca gatgctatca atacastatg tgtccttttt agaataaaga ttacatatca 1440
tcatttcctt tggggaaaat tgttattcag gtataaaaac aagagatcat aataaaaacc 1500
taaaagaacc taaaaaaaaa aaaaaaa                                    1527
```

<210> 54
<211> 122
<212> PRT
<213> Homo sapiens

<400> 54

```
Met Glu Lys Lys Val Ser Leu Leu Lys Asp Asn Ser Ser Leu Glu Phe
  1               5                  10                  15

Asp Ser Glu Met Val Glu Met Ala Gln Lys Leu Gly Ala Ala Leu Gln
            20                  25                  30

Val Gly Glu Ala Leu Val Trp Thr Lys Pro Val Lys Asp Pro Lys Ser
        35                  40                  45

Lys His Gln Thr Thr Ser Thr Ser Lys Pro Ala Ser Phe Gln Gln Pro
    50                  55                  60

Leu Gly Ser Asn Gln Ala Leu Gly Gln Ala Met Ser Ser Ala Ala Ala
65                  70                  75                  80

Tyr Arg Thr Leu Pro Ser Gly Ala Gly Gly Thr Ser Gln Phe Thr Lys
                85                  90                  95

Pro Pro Ser Leu Pro Leu Glu Pro Glu Pro Ala Val Glu Ser Ser Pro
            100                 105                 110

Thr Glu Thr Ser Glu Gln Ile Arg Glu Lys
        115                 120
```

<210> 55
<211> 2352
<212> DNA
<213> Homo sapiens

<400> 55

```
agcagagtga gctgaagctc ctgaggaggg ttcccgaagg ggggcgctca gagatggggg 60
cagggggcgg ggagaggaga gtctgcctta tgtcccttcc ttgtggactt cacatggtca 120
tgcaggaagt gaggatgggt gtccagcggg ggccgaggcc actagtatcc tcctgcttcc 180
ccctgccatt ctccagggct ggactgaccc tatggactgg gagagagtgc ctgaggccac 240
catgccacag tcaaaggggg tcctatctca gaaggtggca gcatccactg agatatcctc 300
acccgaaggg aaggaggctg ctgggtagca aataagcccc ttctttttctt ggtgagttga 360
tgacctccaa tagctcccag tgtcatgggt acccagtacg cattagctgg tgttgggttg 420
```

```
attgagacct ggggcagttc ctggggcaag aagccagatg ggagatgaga tagaaagtgt 480
taggagttat cctctttgcc tggcctttga gaataactta ctgtgtgact ttgggcaagt 540
tcctttccca ctctgggcct cagtttctca cttgggaaag caaggagttt gaccagatga 600
tcacaatggg ccttcctagc tctggccacc aagaatttgt gaacattaga gctcctggtc 660
tggtggtag agccagagct gctgactggt ctctctgcct ccagagggga tttattggac 720
ctcagaggtg gcagggccct atggagcacc aactgccctc aaccccaccc tgtgcccaag 780
actgggaagg gattgatgtc aggctgtggc cataggtagc atgagttgcc caaggaggga 840
cagagcatat ctttgctgag gcttggctga ggggcttatg atagggcttg cagtacctca 900
cagccccctg tgggcacaga cacctgagg tttacccagg caaatatatt gattagcagg 960
acaagggctc tctcctcagt ttctgctccc ttccatctct ctcccatact tgtctgaaaa 1020
gggagacaaa aaatcttata caagtggcat ctcaatcctt tccagtccag cacctcctgg 1080
ggcaggcagt gtgactttatt tcctgtggtg aaatcacctg tttcacaagc ctggcagcgc 1140
gactttctgag tctcatgacc actcaaccca agggacccct ccccagacca gaaccaagtc 1200
agctgggggc tgtcgtacta ccctgtccag tcttgagggc ctagttgcag gtcccccagg 1260
catccagccc ctcctagagc ttgctgggca ggctgcacct catctgggca ggcgcagagc 1320
tgatgaaatg ctggagcaat gcatggcaaa catatgccct ccagtgtctt ctgaaacctt 1380
tggggctgac acaagatcct ttagtgtttg ggatgacctc tttcctgcag acttcttccc 1440
ctatccctaa ctcatgcatg gaaaacgttt gtcaggctgg tttcccgagc ctcctgcacc 1500
tcaacatcac gctcaccctt ttgggtttag cccagtgtta tttagcaaat ttctccagct 1560
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caaggcaatg gccaaattta gttgaattca gcctaccatc ctttgctgat gactcagctc 1680
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atggtcaggg aaacgttgta gggataagta atagagggca gttgccttca gggctcctgg 1800
tggctgctgg tccctatggt gccttgatgt gaattagaag acggtgccct ttccaggtgg 1860
attcagacct acactagaac gcacagcttt gggagtgaca cacaggttgg attttagcac 1920
cccttgcccc ttggccagag gtgccctgct gcacggccat acgctgcagc ctcgagggac 1980
acacaggcca aagtgtttcc ttcagcctct tcctggagag gaagccgcag gtcatgtttc 2040
caagcttctg gtctcaaact cttggcctca agggatcctc ctacctcggc ctccgaaagt 2100
gctgggatta caggtgtgag ccaccatgcc tggcctcact gtgtagttgt gaatagctta 2160
atagtttgca atgtggtgct tctcacagct cttctctgta atgggaacat gaaaaattac 2220
ctggtacagt tttatgcttt gtggtgtggc ttttaatttt tataaacatg tcttactgct 2280
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aaaaaaaaaa aa                                                     2352
```

<210> 56
<211> 169
<212> PRT
<213> Homo sapiens

<400> 56

```
Met Lys Cys Trp Ser Asn Ala Trp Gln Thr Tyr Ala Leu Gln Cys Leu
  1               5                  10                  15

Leu Lys Pro Leu Gly Leu Thr Gln Asp Pro Leu Val Phe Gly Met Thr
            20                  25                  30

Ser Phe Leu Gln Thr Ser Ser Pro Ile Pro Asn Ser Cys Met Glu Asn
        35                  40                  45

Val Cys Gln Ala Gly Phe Pro Ser Leu Leu His Leu Asn Ile Thr Leu
    50                  55                  60

Thr Leu Leu Gly Leu Ala Gln Cys Tyr Leu Ala Asn Phe Ser Ser Cys
65                  70                  75                  80

Arg Glu Gly Ser Glu His Tyr Leu Phe Phe Phe Phe Ser Trp Ser
                85                  90                  95

Gln Asp Cys Thr Arg Gln Trp Pro Asn Leu Val Glu Phe Ser Leu Pro
            100                 105                 110
```

```
Ser Phe Ala Asp Asp Ser Ala Leu Cys Gln Val Leu Glu Pro Gln Arg
        115                 120                 125

Trp Val Ser Pro Ser Pro Cys Pro Gln Glu Ala His Gly Gln Gly Asn
    130                 135                 140

Val Val Gly Ile Ser Asn Arg Gly Gln Leu Pro Ser Gly Leu Leu Val
145                 150                 155                 160

Ala Ala Gly Pro Tyr Gly Ala Leu Met
                165
```

<210> 57
<211> 995
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (852)

<400> 57

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ctaaaccctt cctccagcct ctacctcctg caaaccatcg tccatattgc aagcaatcag 60
atttatttat ttatttttg aggcaggaga atggcgtgaa cccgggaggc aaagcttgca 120
gtgagccaag atcgcaccac tgcactccag cctgggtgac agagcgagac tctgtctcaa 180
aaaaaaaaaa aaaaaagaaa agaaaaaaac ctattgccta cctcccaagg gcaaatgcag 240
cctggtgttt ggctccaagt ctgcttcagc tttggctccc atcactccgc tttccttttg 300
cctcaactta agatcttgcc acatgtacac ttcccataac attccagctg agaggctttt 360
gtatacgagg ggtttttttt tgtttgtttt gccwagaatg atcctccctg gtgaatctta 420
gcttaaatca ccaggcagtt aagcaggctt ttctctatga tttcaccccc actttgtata 480
tttctgtgat tagtcctgaa catcccatgt tgtactgttt acctctctca ctggacttag 540
aaatttctgaa gaacagaaac aaaaagtttt ctcttttctct gtatgttctt tttttgttgt 600
tattattatt gacttggtat atcttctttc agatgtattt tcttttattc tcaacacaaa 660
gtaatttttaa catgatcttt ctgggccaaa attttcttat ctgtaaaatg aagatgttgg 720
actaggattc agggcttctt aactaaagaa ttcaatagat gatgctggga caagtgtata 780
tctacctgta aaggaatgaa gttggacccc ttcctcatac tatacacaaa aattaactca 840
aaatggatca tngacctaaa cataagagct aaaactataa gactttcaga agaaaacaca 900
ggagtaagtc ttcatgacct tggattaagg aatggttgct tagatatgac acccaaaaaa 960
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa                           995
```

<210> 58
<211> 72
<212> PRT
<213> Homo sapiens

<400> 58

```
Met Leu Tyr Cys Leu Pro Leu Ser Leu Asp Leu Glu Ile Leu Lys Asn
  1               5                  10                  15

Arg Asn Lys Lys Phe Ser Leu Ser Leu Tyr Val Leu Phe Leu Leu Leu
             20                  25                  30

Leu Leu Leu Thr Trp Tyr Ile Phe Phe Gln Met Tyr Phe Leu Leu Phe
         35                  40                  45

Ser Thr Gln Ser Asn Phe Asn Met Ile Phe Leu Gly Gln Asn Phe Leu
     50                  55                  60
```

```
Ile Cys Lys Met Lys Met Leu Asp
 65                  70
```

<210> 59
<211> 1038
<212> DNA
<213> Homo sapiens

<400> 59

```
gacggcctca ccatgatgaa acgggcagct gctgctgcag tgggaggagg taagttaccc 60
ggatcgcctg tctccaggcc ctcacctagc ctggtccccg ggctgctggg agaacgcaga 120
gatgaggcgc tgggctggct ctcaccctcc acttccgaag ctgcccgagt agcctgagtg 180
agccacagca tcaaaatact ccagggaaaa gctcactccc attcctgacc cagctttctt 240
tctagtcctt atgtcgaata agcataggag gaagatcgtt tgaaagarga tttgcagcta 300
aactccacgt ggcttatttc acatttatgc gtggacacac acacacacac acacacacac 360
acacaaattt gagaccaatg aagggtattg acttcctcag catcacacag caagttagag 420
acaaaccagg gccatggctg gtccttctat gacatctttg cttcacctgg ctccacactc 480
caccttttct tcaccagaag accactaagt tgccatctct gtattgctca agctgacagt 540
ctccggaaac tgtcaaggaa ttcctaagcg gggggcgggg ggaagggtcc cttctcctga 600
gcccacctct gcactcagct tctctctccc acagccctgg cagtgggggc tgtgccccgtg 660
gtgctcagtg ccatgggctt cactggggca ggaatcgccg cgtcctccat agcagccaag 720
atgatgtccg cagcagccat tgccaacggg ggtggtgttt ctgcggggag cctggtggct 780
actctgcagt ccgtgggggc agctggactc tccacatcat ccaacatcct cctggcctct 840
gttgggtcag tgtkgggggc ctgctkgggg aattcacctt cttcttctct cccagctgaa 900
cccgaggcta aagaagatga ggcaagagaa aatgtacccc aagggtgaacc tccaaaaccc 960
ccactcaagt cagagaaaca tgaggaataa aggtcacatg cagatgcata aaaaaaaaaa 1020
aaaaaaaaaa aaaaaaaa                                              1038
```

<210> 60
<211> 105
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (61)

<220>
<221> UNSURE
<222> (65)

<400> 60

```
Met Gly Phe Thr Gly Ala Gly Ile Ala Ala Ser Ser Ile Ala Ala Lys
  1               5                  10                  15

Met Met Ser Ala Ala Ala Ile Ala Asn Gly Gly Gly Val Ser Ala Gly
             20                  25                  30

Ser Leu Val Ala Thr Leu Gln Ser Val Gly Ala Ala Gly Leu Ser Thr
         35                  40                  45

Ser Ser Asn Ile Leu Leu Ala Ser Val Gly Ser Val Xaa Gly Ala Cys
     50                  55                  60

Xaa Gly Asn Ser Pro Ser Ser Ser Leu Pro Ala Glu Pro Glu Ala Lys
 65                  70                  75                  80

Glu Asp Glu Ala Arg Glu Asn Val Pro Gln Gly Glu Pro Pro Lys Pro
                 85                  90                  95
```

```
Pro Leu Lys Ser Glu Lys His Glu Glu
            100                 105


<210> 61
<211> 1060
<212> DNA
<213> Homo sapiens

<400> 61
gaggagacca ggacagctgc tgagacctct aagaagtcca gatactaaga gcaaagatgt 60
ttcaaactgg gggcctcatt gtctttctacg ggctgttagc ccagaccatg gcccagtttg 120
gaggcctgcc cgtgcccctg gaccagaccc tgcccttgaa tgtgaatcca gccctgccct 180
tgagtcccac aggtcttgca ggaagcttga caaatgccct cagcaatggc ctgctgtctg 240
ggggcctgtt gggcattctg gaaaaccttc cgctcctgga catcctgaag cctggaggag 300
gtacttctgg tggcctcctt gggggactgc ttggaaaagt gacgtcagtg attcctggcc 360
tgaacaacat cattgacata aaggtcactg acccccagct gctggaactt ggccttgtgc 420
agagccctga tggccaccgt ctctatgtca ccatccctct cggcataaag ctccaagtga 480
atacgccccct ggtcggtgca agtctgttga ggctggctgt gaagctggac atcactgcag 540
aaatcttagc tgtgagagat aagcaggaga ggatccacct ggtccttggt gactgcaccc 600
attcccctgg aagcctgcaa atttctctgc ttgatggact tggccccctc cccattcaag 660
gtcttctgga cagcctcaca gggatcttga ataaagtcct gcctgagttg gttcagggca 720
acgtgtgccc tctggtcaat gaggttctca gaggcttgga catcaccctg gtgcatgaca 780
ttgttaacat gctgatccac ggactacagt ttgtcatcaa ggtctaagcc ttccaggaag 840
gggctggcct ctgctgagct gaactatttc ttgctgctca atccatttcc tctggcccag 900
cttcccagtg ctcacagatg gctgggccat gtgctggaag atgacacagt tgccttctct 960
ccgaggaacc tgccccctct cctttcccac caggcgtgtg taacatccca tgtgcctcac 1020
ctaataaaat ggctcttctt ctgcaaaaaa aaaaaaaaaa                       1060

<210> 62
<211> 256
<212> PRT
<213> Homo sapiens

<400> 62
Met Phe Gln Thr Gly Gly Leu Ile Val Phe Tyr Gly Leu Leu Ala Gln
  1               5                  10                  15

Thr Met Ala Gln Phe Gly Gly Leu Pro Val Pro Leu Asp Gln Thr Leu
             20                  25                  30

Pro Leu Asn Val Asn Pro Ala Leu Pro Leu Ser Pro Thr Gly Leu Ala
         35                  40                  45

Gly Ser Leu Thr Asn Ala Leu Ser Asn Gly Leu Leu Ser Gly Gly Leu
     50                  55                  60

Leu Gly Ile Leu Glu Asn Leu Pro Leu Leu Asp Ile Leu Lys Pro Gly
 65                  70                  75                  80

Gly Gly Thr Ser Gly Gly Leu Leu Gly Gly Leu Leu Gly Lys Val Thr
                 85                  90                  95

Ser Val Ile Pro Gly Leu Asn Asn Ile Ile Asp Ile Lys Val Thr Asp
            100                 105                 110

Pro Gln Leu Leu Glu Leu Gly Leu Val Gln Ser Pro Asp Gly His Arg
        115                 120                 125
```

```
Leu Tyr Val Thr Ile Pro Leu Gly Ile Lys Leu Gln Val Asn Thr Pro
    130                 135                 140

Leu Val Gly Ala Ser Leu Leu Arg Leu Ala Val Lys Leu Asp Ile Thr
145                 150                 155                 160

Ala Glu Ile Leu Ala Val Arg Asp Lys Gln Glu Arg Ile His Leu Val
                165                 170                 175

Leu Gly Asp Cys Thr His Ser Pro Gly Ser Leu Gln Ile Ser Leu Leu
            180                 185                 190

Asp Gly Leu Gly Pro Leu Pro Ile Gln Gly Leu Leu Asp Ser Leu Thr
        195                 200                 205

Gly Ile Leu Asn Lys Val Leu Pro Glu Leu Val Gln Gly Asn Val Cys
    210                 215                 220

Pro Leu Val Asn Glu Val Leu Arg Gly Leu Asp Ile Thr Leu Val His
225                 230                 235                 240

Asp Ile Val Asn Met Leu Ile His Gly Leu Gln Phe Val Ile Lys Val
                245                 250                 255
```

<210> 63
<211> 992
<212> DNA
<213> Homo sapiens

<400> 63
gcagaatggg gctctggtct ctgggcattc atttccctca tagaggctga gaataaaaca 60
aggacttatt cacacatgtt ctagaacccc agaatggccc aagttacctg agaccagggt 120
ttctcaacct tgacaccatt gacattttgg actgggtaat tctttgttct gcagagctgt 180
cctttgcact gtaggagatt tactaatatc cctggcctct acccagtagt accactagca 240
cctattcccc acccagcgtg tctccagata ttgtcaaata tcccatcggg tgcaaaatga 300
tccctggtca agatctgttg cccaagatgt tacaggtcac aatgaccaca tttgaaattg 360
ttttcccttt catttaccc tgtgaaagca tctctcctag agccttgcaa gaggcaggtg 420
acattgtgtc catatttctt cctgtttcag aacttctgtt tcacaacaat ttctctctcg 480
ctacaagtat tctttcactc agcactgggg aagttgggaa cagctggtca ccatcatccc 540
tttaatcaac tcacacctgt ttaaagagtg tttctgattt gaccttcatc ccttagttta 600
ctgggggttaa aaaaagtctc agcaattttc attatttctc gtgggtctca ttatcaaacc 660
tttacttatt tcggcatatt tcctctgggc ttcttctagt ttctgcctta caagcaatgc 720
tgttctgtaa atttattgaa aactctggaa catttcacct ttagagatgg aggatggaag 780
gattggtacc agaagagggc taagatacgt tttctgtctt gagctgaaag cacagtctac 840
tctccttcgt tttgtcgatg agaaagttga ggccagaggg gaggtgacat gtttagagtc 900
acccagctgg ttagtgacag aaaaagcgtg agagttgtct aggattcctg ccactttcaa 960
taaagacctg acttggaaaa aaaaaaaaaa aa   992

<210> 64
<211> 82
<212> PRT
<213> Homo sapiens

<400> 64
```
Met Ile Pro Gly Gln Asp Leu Leu Pro Lys Met Leu Gln Val Thr Met
  1               5                  10                  15

Thr Thr Phe Glu Ile Val Phe Pro Phe Ile Leu Pro Cys Glu Ser Ile
            20                  25                  30
```

```
Ser Pro Arg Ala Leu Gln Glu Ala Gly Asp Ile Val Ser Ile Phe Leu
         35                  40                  45

Pro Val Ser Glu Leu Leu Phe His Asn Asn Phe Ser Leu Ala Thr Ser
     50                  55                  60

Ile Leu Ser Leu Ser Thr Gly Glu Val Gly Asn Ser Trp Ser Pro Ser
 65                  70                  75                  80

Ser Leu
```

<210> 65
<211> 1095
<212> DNA
<213> Homo sapiens

<400> 65
gtcttaatga gcaacagcaa cagcagtctc cagttaagaa agagagaatt aaatacagca 60
gagatttcct gttgaagctc tcaagtgttt ccatctgcag aaaaaaacca gactttctgc 120
ctgatcatcc cattgtactg caaaaaccag aaaacaacca aagttttaag tagcatttta 180
agaacagatg aatttaagtt tggacatctg caaatgaggt ggatctagca acaataactg 240
taatggactg tgacaattca atttattctt aattttgatg gttggctatt tgacttctct 300
aaaaatgaga aagagctatt ttaaaatata aagaattttc taatcagttt cagctttgca 360
ggaggtttcc tgcataaatt gggaagtaac actggaaagt aggaatttgg ttagtgaagt 420
gggaagactg tatatttata atttgcatac tacttgcaat tttttgtttt tcatcacttg 480
taataatgga atggaaatgt aagctgtaaa gactctcaaa tataaaatat ttgctacagt 540
gtatatatgg tacataattg cttgttgctt ttaaagttcc ttctgttgtt ctgcttccca 600
ctgatttcat accagctcat gaatggatca ttacagtctc tccagaggct tagaatgatt 660
cagaatgttc aatgcatagt tctcaataaa caggaggcag aatttttaat gggtatttct 720
tttcagatat atgattggtc tctaggtttt tgataataat atggtcttaa attcataatt 780
actagcagag attgataatt tggaaacaat ggtagtgaat gaaactgaag ttgaaaaacg 840
gctgctactt atgtcactaa tcagaccata tgaatagcag aagttgagca atttcaaagt 900
aaaactgata tttttatttc caaaggaatt tagacatttg aaaataattg acatacatta 960
agtttttaatt cgataatttc ttatatatgg atgaacaatt tttgggttta agcttttaat 1020
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aaaaaaaaaa aaaaa   1095

<210> 66
<211> 68
<212> PRT
<213> Homo sapiens

<400> 66
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Met Val His Asn Cys Leu Leu Leu Leu Lys Phe Leu Leu Leu Phe Cys
  1               5                  10                  15

Phe Pro Leu Ile Ser Tyr Gln Leu Met Asn Gly Ser Leu Gln Ser Leu
             20                  25                  30

Gln Arg Leu Arg Met Ile Gln Asn Val Gln Cys Ile Val Leu Asn Lys
         35                  40                  45

Gln Glu Ala Glu Phe Leu Met Gly Ile Ser Phe Gln Ile Tyr Asp Trp
     50                  55                  60

Ser Leu Gly Phe
 65
```

<210> 67
<211> 831
<212> DNA
<213> Homo sapiens

<400> 67
ggctctgtgg gcccagccct acccctgaag cacagttaac tggttctggg gtaggaactg 60
ggggccggag ggacagggtt ctggttctgg ctcaaccttg gctgctggtg agatccaggg 120
cctgggaaag aggggctgag gcctgaactg ggcctaagga gagtgcagct cagttcgcac 180
acaacagcac ccagccctgt ccccttgctg cctctaccca gccctgggca gttccctcaa 240
cagagctctg cagccccaag tggcagctgc tggctcaaag ctgggactac atgaaagtct 300
gaaaagagaa tgagaaggag gtggcgcaag agcctggacg cacgtgtggg aggccgtttt 360
gtgcagcgct attgtgctcc ccgggcgggc atgtkctcgc gctccgtggc tctgttggtg 420
cccarcgtgc gggggtgtgc tkgtggccct gtgggcctgt agggcaaccc atgccaactg 480
cggaaaagta accagcacca tacacccccc ccaacacaaa actggtcatt tatttttttt 540
gttgtcattg ttattaggaa gcaaaaaaat gtacagttac aagaatcatt ttccaaacag 600
aggttaaata tgagctgaaa agtgtaaaaa aggaagagga acatcacttt acaaatcatt 660
aaattaaaca aataaacaaa cagaacccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 780
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 831

<210> 68
<211> 50
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (29)

<220>
<221> UNSURE
<222> (39)

<220>
<221> UNSURE
<222> (45)

<400> 68
Met Arg Arg Arg Trp Arg Lys Ser Leu Asp Ala Arg Val Gly Gly Arg
  1   5   10   15

Phe Val Gln Arg Tyr Cys Ala Pro Arg Ala Gly Met Xaa Ser Arg Ser
             20   25   30

Val Ala Leu Leu Val Pro Xaa Val Arg Gly Cys Ala Xaa Gly Pro Val
         35   40   45

Gly Leu
     50

<210> 69
<211> 1893
<212> DNA
<213> Homo sapiens

<400> 69

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ggcaraccgt gtgagggggc ctgtggcccc agcgtgctgt ggcctcgggg agtgggaagt 60
ggaggcagga gccttcctta cacttcgcca tgagtttcct catcgactcc agcatcatga 120
ttacctccca ratactattt tttggatttg ggtggctttt cttcatgcgc caattgttta 180
aagactatga ratacgtcag tatgttgtac aggtgatctt ctccgtgacg tttgcatttt 240
cttgcaccat gtttgagctc atcatctttg aaatcttagg agtattgaat agcagctccc 300
gttattttca ctggaaaatg aacctgtgtg taatttctgct gatcctggtt ttcatggtgc 360
ctttttacat tggctatttt attgtgagca atatccgact actgcataaa caacgactgc 420
ttttttcctg tctcttatgg ctgacctttа tgtatttctt ctggaaacta ggagatccct 480
ttcccattct cagcccaaaa catgggatct tatccataga acagctcatc agccgggttg 540
gtgtgattgg agtgactctc atggctcttc tttctggatt tggtgctgtc aactgcccat 600
acacttacat gtcttacttc ctcaggaatg tgactgacac ggatattcta gccctggaac 660
ggcgactgct gcaaaccatg gatatgatca taagcaaaaa gaaaaggatg gcaatggcac 720
ggagaacaat gttccagaag ggggaagtgc ataacaaacc atcaggtttc tggggaatga 780
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tggatgcttt ggaagaatta agcaggcagc ttttctggga aacagctgat ctatatgcta 900
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gtcagcgctc tctctagcat actcttcctc tatttggctc acaaacaggc accagagaag 1440
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gatttccgtt ttaaggttca catggaaaag gttatagctt tgccttgaga ttgactcatt 1860
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<210> 70
<211> 309
<212> PRT
<213> Homo sapiens

<400> 70

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Met Ser Phe Leu Ile Asp Ser Ser Ile Met Ile Thr Ser Gln Ile Leu
  1               5                  10                  15

Phe Phe Gly Phe Gly Trp Leu Phe Phe Met Arg Gln Leu Phe Lys Asp
            20                  25                  30

Tyr Glu Ile Arg Gln Tyr Val Val Gln Val Ile Phe Ser Val Thr Phe
        35                  40                  45

Ala Phe Ser Cys Thr Met Phe Glu Leu Ile Ile Phe Glu Ile Leu Gly
    50                  55                  60

Val Leu Asn Ser Ser Ser Arg Tyr Phe His Trp Lys Met Asn Leu Cys
65                  70                  75                  80

Val Ile Leu Leu Ile Leu Val Phe Met Val Pro Phe Tyr Ile Gly Tyr
                85                  90                  95

Phe Ile Val Ser Asn Ile Arg Leu Leu His Lys Gln Arg Leu Leu Phe
            100                 105                 110
```

```
Ser Cys Leu Leu Trp Leu Thr Phe Met Tyr Phe Phe Trp Lys Leu Gly
        115                 120                 125

Asp Pro Phe Pro Ile Leu Ser Pro Lys His Gly Ile Leu Ser Ile Glu
    130                 135                 140

Gln Leu Ile Ser Arg Val Gly Val Ile Gly Val Thr Leu Met Ala Leu
145                 150                 155                 160

Leu Ser Gly Phe Gly Ala Val Asn Cys Pro Tyr Thr Tyr Met Ser Tyr
                165                 170                 175

Phe Leu Arg Asn Val Thr Asp Thr Asp Ile Leu Ala Leu Glu Arg Arg
            180                 185                 190

Leu Leu Gln Thr Met Asp Met Ile Ile Ser Lys Lys Lys Arg Met Ala
        195                 200                 205

Met Ala Arg Arg Thr Met Phe Gln Lys Gly Glu Val His Asn Lys Pro
    210                 215                 220

Ser Gly Phe Trp Gly Met Ile Lys Ser Val Thr Thr Ser Ala Ser Gly
225                 230                 235                 240

Ser Glu Asn Leu Thr Leu Ile Gln Gln Glu Val Asp Ala Leu Glu Glu
                245                 250                 255

Leu Ser Arg Gln Leu Phe Leu Glu Thr Ala Asp Leu Tyr Ala Thr Lys
            260                 265                 270

Glu Arg Ile Glu Tyr Ser Lys Thr Phe Lys Gly Lys Tyr Leu Ile Ser
        275                 280                 285

Trp Leu Leu Phe Leu Tyr Leu Leu Cys Leu Glu Asn Phe His Glu Tyr
    290                 295                 300

His Gln Tyr Cys Ile
305
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<210> 71
<211> 1424
<212> DNA
<213> Homo sapiens

<400> 71

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tctacttaat attctcgtgc tcagagctaa cgaggctggc gttaggcggt gacgtgggcc 180
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ctccccactt tccccaaccc tgcagtcagc accccagggc tctggaggct gtacaggtat 780
gagatgcaaa gggcctgtgg tttaggtgtg agtgtggtat gggggtgtgg aggcagcccc 840
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cagtgagcca aaaccatgcc actgcactcc agcctgggca acagagtgag acgcggtctc 1260
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<210> 72
<211> 70
<212> PRT
<213> Homo sapiens

<400> 72
Met Thr Ser Glu His Ala Thr Leu Arg Ser Leu Ser Ala Leu Pro Thr
  1               5                  10                  15

Phe Pro Asn Pro Ala Val Ser Thr Pro Gly Leu Trp Arg Leu Tyr Arg
            20                  25                  30

Tyr Glu Met Gln Arg Ala Cys Gly Leu Gly Val Ser Val Val Trp Gly
        35                  40                  45

Cys Gly Gly Ser Pro Val Trp His Gly Cys Glu Gly Ala Val Glu Asp
    50                  55                  60

Arg Leu Ser Val Leu Pro
65                  70


<210> 73
<211> 1726
<212> DNA
<213> Homo sapiens

<400> 73
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tgtcacaaag cagcacccat ggcacatggg ccgggggtgc agaagcctgg cttatttcag 180
gctgacagct ggaccctctg ggtgcagggg ctcaggcagt ggccaagagc ccaaagggct 240
aaggcccgtg acgaccaccc agcccgtcac cccaggtaca aacactgacc ccaaagcaag 300
agcagggact gtccctcagc cctcagggcc ttcatgcagg gtgcagaatc tcatgtccac 360
atggaggtca cccctcaggt cacacccact cccagagcaa ccctgggcar ggaggggcac 420
cctgggggttg tgttgaccac ctccccttca ggtgaggccc tttttctgcct tcttttctagc 480
cccctgcatg gggcacctgc tattgctggg gctctggggt ggaccctgtg tgatttctgt 540
cagggagctt gtgctgtgca tggccagagg tgtttacatc cagaaggggcc cagcacggcc 600
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gaagtgagtt gggacagtca ctgtcatcac caccccacct gtcacccacc tggaaaacat 780
tcttgatata ctggccatgc tgggccgggc tcacatccac tgagggtata gtgaccaagc 840
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atttctaaca agttcctagg agctgcagct gctggccctg gaaccacact ttgagaacca 1020
ctgctttaga ccaaacacca aaggaagatg cagccaccct cctttacatg tcacaacgct 1080
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<210> 74
<211> 133
<212> PRT
<213> Homo sapiens

<400> 74
Met Val Ser Ser Trp Pro Ala Arg Lys Ala Ser Leu Leu Cys Val Cys
  1               5                  10                  15

Ala Val Leu Val Leu Pro Trp Arg Thr Leu Gly Ser Pro Val Ile Leu
            20                  25                  30

Ala Arg Arg Pro Gly Ala Trp Val Pro Ser Trp Lys Gly Thr Ser Tyr
        35                  40                  45

Thr Pro Gln Pro His Phe Pro Thr Asn Phe Tyr Met Pro Trp Glu Asn
    50                  55                  60

Leu Leu His Val Gly Cys Pro Leu Pro Leu Phe Gln Gln Cys Pro Val
65                  70                  75                  80

Leu Leu Ile Asn Leu Arg Pro Ala Pro His Thr Leu Pro Cys Ala Ser
                85                  90                  95

Ala Ser Arg Tyr Ser Arg Gln Pro Asn Val Val Glu Ala Arg Trp Ile
            100                 105                 110

Pro Gly Ser Ser Trp Pro Met Asp Val Ser His His Ser Ile Leu Glu
        115                 120                 125

Thr Glu Lys Arg Ser
    130


<210> 75
<211> 927
<212> DNA
<213> Homo sapiens

<400> 75
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tccgacccca ggagccagcc catcaacctg aaccattacg ccaccaagaa gagcgtggcg 180
gagagcatgc tggacgtggc cctgttcatg tccaacgcca tgcggctgaa ggcggtgctg 240
gagcagggac catcctctca ctactacacc accctggtca ccctcatcag cctctctctg 300
ctcctgcagg tggtcatcgg tgtcctgctc gtggtcattg cacggctgaa cctgaatgag 360
gtagaaaagc agtggcgact caaccagctc aacaacgcag ccaccatctt ggtcttcttc 420
actgtggtca tcaatgtttt cattacagcc ttcgggggcac ataaaacagg gttcctggct 480
gccagggcct caaggaatcc tctctgaatg cagcctggga cccaggttct ggggcctgga 540
acttctgcct ccttcctccg tgatctgcca ggctcggtgg gcactttcca cagcccagga 600
gagcttctga aaggacagta tagctgccct tgctccctac ccacagcacc tgagttaaaa 660
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<210> 76
<211> 142
<212> PRT
<213> Homo sapiens

<400> 76

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Met Glu Ser Ala Arg Glu Asn Ile Asp Leu Gln Pro Gly Ser Ser Asp
  1               5                  10                  15

Pro Arg Ser Gln Pro Ile Asn Leu Asn His Tyr Ala Thr Lys Lys Ser
            20                  25                  30

Val Ala Glu Ser Met Leu Asp Val Ala Leu Phe Met Ser Asn Ala Met
        35                  40                  45

Arg Leu Lys Ala Val Leu Glu Gln Gly Pro Ser Ser His Tyr Tyr Thr
    50                  55                  60

Thr Leu Val Thr Leu Ile Ser Leu Ser Leu Leu Leu Gln Val Val Ile
65                  70                  75                  80

Gly Val Leu Leu Val Val Ile Ala Arg Leu Asn Leu Asn Glu Val Glu
                85                  90                  95

Lys Gln Trp Arg Leu Asn Gln Leu Asn Asn Ala Ala Thr Ile Leu Val
            100                 105                 110

Phe Phe Thr Val Val Ile Asn Val Phe Ile Thr Ala Phe Gly Ala His
        115                 120                 125

Lys Thr Gly Phe Leu Ala Ala Arg Ala Ser Arg Asn Pro Leu
    130                 135                 140
```

<210> 77
<211> 1660
<212> DNA
<213> Homo sapiens

<400> 77

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tgctgcaacc accaaccagg ccacagcact gaaagaagca cttcagcctc caattcacct 540
gggacatctg cccttgcagg aaggagaact gcctctggtt cagcagcagg tggcaccatc 600
agataagcca ccaaagcctg agctcccagg agtagatttt gctgatccac aaggtccatc 660
actcccagga atggattttc ctgatccaca aggtccatca ctcccaggat tggattttgc 720
tgatccacaa ggttcaacaa ttttccagat agcccgtttg attttctcacg gaccaatgcc 780
acaaaataaa caatctccac tttatccagg aatgttgtac gtgccttttg gagcaaatca 840
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cgcagggctc cttgctctcc ctaaggatga cattcccggc ctgccaagga gcccttcagg 1200
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caaagcccag gagcccgaga tgatgcatga cgcatggcat ttccaagagc cctgacagct 1440
ctaagatatt agctactttc tgtatgcaca agctttccag ctttgtcccc acagtgtacc 1500
tttttgctaa aacacttatt acccttctgc agcaaaggca ttaaaagcgc taagcatata 1560
ttaataaatg caagtggcta gaaatagtgt aggtcccctt cttgctttca atatcttgtt 1620
gaaataaaat gtgtcaattg tcaaaaaaaa aaaaaaaaaa                       1660
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<210> 78
<211> 447
<212> PRT
<213> Homo sapiens

<400> 78

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Met Ser Ala Ser Lys Ile Pro Leu Phe Lys Met Lys Asp Leu Ile Leu
  1               5                  10                  15

Ile Leu Cys Leu Leu Glu Met Ser Phe Ala Val Pro Phe Phe Pro Gln
             20                  25                  30

Gln Ser Gly Thr Pro Gly Met Ala Ser Leu Ser Leu Glu Thr Met Arg
         35                  40                  45

Gln Leu Gly Ser Leu Gln Arg Leu Asn Thr Leu Ser Gln Tyr Ser Arg
     50                  55                  60

Tyr Gly Phe Gly Lys Ser Phe Asn Ser Leu Trp Met His Gly Leu Leu
 65                  70                  75                  80

Pro Pro His Ser Ser Leu Pro Trp Met Arg Pro Arg Glu His Glu Thr
                 85                  90                  95

Gln Gln Tyr Glu Tyr Ser Leu Pro Val His Pro Pro Pro Leu Pro Ser
            100                 105                 110

Gln Pro Ser Leu Lys Pro Gln Gln Pro Gly Leu Lys Pro Phe Leu Gln
        115                 120                 125

Ser Ala Ala Ala Thr Thr Asn Gln Ala Thr Ala Leu Lys Glu Ala Leu
    130                 135                 140

Gln Pro Pro Ile His Leu Gly His Leu Pro Leu Gln Glu Gly Glu Leu
145                 150                 155                 160

Pro Leu Val Gln Gln Gln Val Ala Pro Ser Asp Lys Pro Pro Lys Pro
                165                 170                 175

Glu Leu Pro Gly Val Asp Phe Ala Asp Pro Gln Gly Pro Ser Leu Pro
            180                 185                 190

Gly Met Asp Phe Pro Asp Pro Gln Gly Pro Ser Leu Pro Gly Leu Asp
        195                 200                 205
```

```
Phe Ala Asp Pro Gln Gly Ser Thr Ile Phe Gln Ile Ala Arg Leu Ile
    210                 215                 220

Ser His Gly Pro Met Pro Gln Asn Lys Gln Ser Pro Leu Tyr Pro Gly
225                 230                 235                 240

Met Leu Tyr Val Pro Phe Gly Ala Asn Gln Leu Asn Ala Pro Ala Arg
                245                 250                 255

Leu Gly Ile Met Ser Ser Glu Glu Val Ala Gly Gly Arg Glu Asp Pro
            260                 265                 270

Met Ala Tyr Gly Ala Met Phe Pro Gly Phe Gly Gly Met Arg Pro Gly
        275                 280                 285

Phe Glu Gly Met Pro His Asn Pro Ala Met Gly Gly Asp Phe Thr Leu
    290                 295                 300

Glu Phe Asp Ser Pro Val Ala Ala Thr Lys Gly Pro Glu Asn Glu Glu
305                 310                 315                 320

Gly Gly Ala Gln Gly Ser Pro Met Pro Glu Ala Asn Pro Asp Asn Leu
                325                 330                 335

Glu Asn Pro Ala Phe Leu Thr Glu Leu Glu Pro Ala Pro His Ala Gly
            340                 345                 350

Leu Leu Ala Leu Pro Lys Asp Asp Ile Pro Gly Leu Pro Arg Ser Pro
        355                 360                 365

Ser Gly Lys Met Lys Gly Leu Pro Ser Val Thr Pro Ala Ala Ala Asp
    370                 375                 380

Pro Leu Met Thr Pro Glu Leu Ala Asp Val Tyr Arg Thr Tyr Asp Ala
385                 390                 395                 400

Asp Met Thr Thr Ser Val Asp Phe Gln Glu Glu Ala Thr Met Asp Thr
                405                 410                 415

Thr Met Ala Pro Asn Ser Leu Gln Thr Ser Met Pro Gly Asn Lys Ala
            420                 425                 430

Gln Glu Pro Glu Met Met His Asp Ala Trp His Phe Gln Glu Pro
        435                 440                 445
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<210> 79
<211> 2036
<212> DNA
<213> Homo sapiens

<400> 79
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gtaagaatag ttttataaaa gtgaatacac agatctattg tatttgaaac ataactttga 180
caattattag tgtgaccaaa gtattaggcg gttttcatac atttttcacc ttgtacaaaa 240
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tgttatttta gttgttctaa cttacaaaag tgattttgaa taagaaatat ttggtgttct 360
ttttataacc agtttttgat tggtaattgt tttctgtatt gtttaaaacg gatcaaaaat 420
gtwagtctat tggtagagat taagtattta ttgctacmtc atagttgawa aattgatgtt 480

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tgaaacacta gactatttgg gagtgtatat ggcttgtgtt ttgggatttt ttttttttt 600
ttttggcttt tgtttttgtt tgttttttg tttcgtttgg tagttcatct gccttttaac 660
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catatttaac agacctaaaa taaatcctat taggcaagtc agttgaaaat gctcgtgctg 780
ctaatggaat tagagtgcgt tcatttttca ggctagtatt ttaaaaatag aaatcaaaat 840
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tgtgttggcc atactgaatt atgagactaa cagatgtcta caatacaata cctgtattca 1980
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<210> 80
<211> 81
<212> PRT
<213> Homo sapiens

<400> 80

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Met Leu Trp Ser Arg Leu Val Val Ser Phe Ala Ser His Gly Gln Gly
  1               5                  10                  15

Leu Ala Pro Leu Val Ala His Val Ala Ser Val Val Trp Thr Trp Trp
             20                  25                  30

Leu Leu His Pro Thr Val Ala Ser Val Val Trp Thr Trp Trp Leu Leu
         35                  40                  45

His Pro Thr Gln Gly Asn Ser Val Leu Leu His Pro Thr Asp Cys Trp
     50                  55                  60

Glu Arg Ala Ser Gly Thr Phe Leu Trp Gly Ile Ile Leu Phe Cys Leu
 65                  70                  75                  80

Leu
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<210> 81
<211> 3465
<212> DNA
<213> Homo sapiens

<400> 81

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ctgcctttct gttacagctt ttaaaaatca gctatgtatt cctttctgtt tttcgtatat 120
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<210> 82
<211> 51
<212> PRT

<213> Homo sapiens

<400> 82
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1 5 10 15

Met Trp Ile Tyr Ala Thr Asp Leu His Phe Gly His His Lys Lys Tyr
20 25 30

Cys Cys Ala Ser Pro Thr Pro Thr Pro Thr Pro Leu Val Tyr Ser Leu
35 40 45

Lys Trp Tyr
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<210> 83
<211> 808
<212> DNA
<213> Homo sapiens

<400> 83
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aaaaaaaaaa aaaaaaaaaa aaaaaaaa 808

<210> 84
<211> 45
<212> PRT
<213> Homo sapiens

<400> 84
Met Leu Thr Met Phe Ile Ala His Lys Leu Cys Leu Leu Gln Ala Phe
1 5 10 15

Val Ile Lys Phe Val Leu Asn Lys Cys Glu Gly His Gln Leu Lys Gly
20 25 30

Thr Ala Asn Ser Leu Arg Pro Leu Val Leu Ala Val Pro
35 40 45

<210> 85
<211> 1024
<212> DNA
<213> Homo sapiens

<400> 85
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caaattaggt ttttctttct ttttggaaat cagtcattac agtaaccgaa accattgggt 240
tcagcgaaaa tggaaagatt tagctgaatg tagtcagtcc aattaagttg gatgcaactg 300
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<210> 86
<211> 64
<212> PRT
<213> Homo sapiens

<400> 86

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Met Ser Gln Gln Gln His Trp Pro Asn Leu Arg Pro Ser Leu Leu Ala
  1               5                  10                  15

His His Met Cys Thr Val Leu Phe Ala Val Val Leu Ile Ile His Pro
             20                  25                  30

Ser Leu Cys His Pro Gln Ala Ser Leu Gly Val Lys Arg Lys Leu Ser
         35                  40                  45

Thr Asp Thr Ala Met Arg Ser His Val Leu Met Pro Ser Gly Ala Gln
     50                  55                  60
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<210> 87
<211> 867
<212> DNA
<213> Homo sapiens

<400> 87

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<210> 88

<211> 51
<212> PRT
<213> Homo sapiens

<400> 88
Met Glu Asn Ile Cys Val Glu Val Phe Leu Leu Leu Phe Val Thr Ile
1 5 10 15

Phe Leu Ile Cys Ser Lys Glu Asn Ala Ala Ile Leu His Ser Leu Trp
20 25 30

Lys Glu Thr Lys Gln Asn Lys Thr His Ser Lys Pro Ala Val Leu Leu
35 40 45

Ser Asp Lys
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<210> 89
<211> 1797
<212> DNA
<213> Homo sapiens

<400> 89
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<210> 90
<211> 245
<212> PRT
<213> Homo sapiens

<400> 90
Met Ala Ser Pro Ser Arg Arg Leu Gln Thr Lys Pro Val Ile Thr Cys
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Phe Lys Ser Val Leu Leu Ile Tyr Thr Phe Ile Phe Trp Ile Thr Gly
20 25 30

Val Ile Leu Leu Ala Val Gly Ile Trp Gly Lys Val Ser Leu Glu Asn
35 40 45

Tyr Phe Ser Leu Leu Asn Glu Lys Ala Thr Asn Val Pro Phe Val Leu
50 55 60

Ile Ala Thr Gly Thr Val Ile Ile Leu Leu Gly Thr Phe Gly Cys Phe
65 70 75 80

Ala Thr Cys Arg Ala Ser Ala Trp Met Leu Lys Leu Tyr Ala Met Phe
85 90 95

Leu Thr Leu Val Phe Leu Val Glu Leu Val Ala Ala Ile Val Gly Phe
100 105 110

Val Phe Arg His Glu Ile Lys Asn Ser Phe Lys Asn Asn Tyr Glu Lys
115 120 125

Ala Leu Lys Gln Tyr Asn Ser Thr Gly Asp Tyr Arg Ser His Ala Val
130 135 140

Asp Lys Ile Gln Asn Thr Leu His Cys Cys Gly Val Thr Asp Tyr Arg
145 150 155 160

Asp Trp Thr Asp Thr Asn Tyr Tyr Ser Glu Lys Gly Phe Pro Lys Ser
165 170 175

Cys Cys Lys Leu Glu Asp Cys Thr Pro Gln Arg Asp Ala Asp Lys Val
180 185 190

Asn Asn Glu Gly Cys Phe Ile Lys Val Met Thr Ile Ile Glu Ser Glu
195 200 205

Met Gly Val Val Ala Gly Ile Ser Phe Gly Val Ala Cys Phe Gln Leu
210 215 220

Ile Gly Ile Phe Leu Ala Tyr Cys Leu Ser Arg Ala Ile Thr Asn Asn
225 230 235 240

Gln Tyr Glu Ile Val
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<210> 91
<211> 1992
<212> DNA
<213> Homo sapiens

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<210> 92
<211> 556
<212> PRT
<213> Homo sapiens

<400> 92

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Trp Glu Pro Gly Lys Arg Arg Cys Ala Lys Cys Gly Arg Leu Asp Phe
             20                  25                  30

Ile Leu Met Lys Lys Met Gly Ile Lys Ser Gly Phe Thr Phe Trp Asn
         35                  40                  45

Leu Val Phe Leu Leu Thr Val Ser Cys Val Lys Gly Phe Ile Tyr Thr
     50                  55                  60

Cys Gly Gly Thr Leu Lys Gly Leu Asn Gly Thr Ile Glu Ser Pro Gly
 65                  70                  75                  80

Phe Pro Tyr Gly Tyr Pro Asn Gly Ala Asn Cys Thr Trp Val Ile Ile
                 85                  90                  95

Ala Glu Glu Arg Asn Arg Ile Gln Ile Val Phe Gln Ser Phe Ala Leu
            100                 105                 110

Glu Glu Glu Tyr Asp Tyr Leu Ser Leu Tyr Asp Gly His Pro His Pro
        115                 120                 125
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Thr Asn Phe Arg Thr Arg Leu Thr Gly Phe His Leu Pro Pro Pro Val
    130                 135                 140

Thr Ser Thr Lys Ser Val Phe Ser Leu Arg Leu Thr Ser Asp Phe Ala
145                 150                 155                 160

Val Ser Ala His Gly Phe Lys Val Tyr Tyr Glu Glu Leu Gln Ser Ser
                165                 170                 175

Ser Cys Gly Asn Pro Gly Val Pro Pro Lys Gly Val Leu Tyr Gly Thr
            180                 185                 190

Arg Phe Asp Val Gly Asp Lys Ile Arg Tyr Ser Cys Val Thr Gly Tyr
        195                 200                 205

Ile Leu Asp Gly His Pro Gln Leu Thr Cys Ile Ala Asn Ser Val Asn
    210                 215                 220

Thr Ala Ser Trp Asp Phe Pro Val Pro Ile Cys Arg Ala Glu Asp Ala
225                 230                 235                 240

Cys Gly Gly Thr Met Arg Gly Ser Ser Gly Ile Ile Ser Ser Pro Ser
                245                 250                 255

Phe Pro Asn Glu Tyr His Asn Asn Ala Asp Cys Thr Trp Thr Ile Val
            260                 265                 270

Ala Glu Pro Gly Asp Thr Ile Ser Leu Ile Phe Thr Asp Phe Gln Met
        275                 280                 285

Glu Glu Lys Tyr Asp Tyr Leu Glu Ile Glu Gly Ser Glu Pro Pro Thr
    290                 295                 300

Ile Trp Leu Ser Gly Met Asn Ile Pro Pro Pro Ile Ile Ser Asn Lys
305                 310                 315                 320

Asn Trp Leu Arg Leu His Phe Val Thr Asp Ser Asn His Arg Tyr Arg
                325                 330                 335

Gly Phe Ser Ala Pro Tyr Gln Val Lys Lys Ala Ile Asp Phe Lys Ser
            340                 345                 350

Arg Gly Phe Lys Leu Phe Pro Gly Lys Asp Asn Ser Asn Lys Phe Ser
        355                 360                 365

Ile Leu Asn Glu Gly Gly Ile Lys Thr Ala Ser Asn Leu Cys Pro Asp
    370                 375                 380

Pro Gly Glu Pro Glu Asn Gly Lys Arg Ile Gly Ser Asp Phe Ser Leu
385                 390                 395                 400

Gly Ser Thr Val Gln Phe Ser Cys Asp Glu Asp Tyr Val Leu Gln Gly
                405                 410                 415

Ala Lys Ser Ile Thr Cys Gln Arg Ile Ala Glu Val Phe Ala Ala Trp
            420                 425                 430

Ser Asp His Arg Pro Val Cys Lys Val Lys Thr Cys Gly Ser Asn Leu
        435                 440                 445
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Gln Gly Pro Ser Gly Thr Phe Thr Ser Pro Asn Phe Pro Phe Gln Tyr
    450                 455                 460

Asp Ser Asn Ala Gln Cys Val Trp Val Ile Thr Ala Val Asn Thr Asn
465                 470                 475                 480

Lys Val Ile Gln Ile Asn Phe Glu Glu Phe Asp Leu Glu Ile Gly Tyr
                485                 490                 495

Asp Thr Leu Thr Ile Gly Asp Gly Gly Glu Val Gly Asp Pro Arg Thr
            500                 505                 510

Val Leu Gln Val Leu Thr Gly Ser Phe Val Pro Asp Leu Ile Val Ser
        515                 520                 525

Met Ser Ser Gln Met Trp Leu His Leu Gln Thr Asp Glu Ser Val Gly
    530                 535                 540

Ser Val Gly Phe Lys Val Asn Tyr Lys Gly Asn Asp
545                 550                 555
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<210> 93
<211> 2085
<212> DNA
<213> Homo sapiens

<400> 93

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<210> 94
<211> 399
<212> PRT
<213> Homo sapiens

<400> 94

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Val Arg Pro Ser Pro Ala Lys Arg Arg Leu Ser Thr Leu Ile Leu His
        35                  40                  45

Gly Gly Gly Thr Val Cys Arg Val Gln Glu Pro Gly Ala Val Leu Leu
    50                  55                  60

Ala Gln Pro Gly Glu Ala Leu Ala Glu Ala Ser Gly Asp Phe Ile Ser
65                  70                  75                  80

Thr Gln Tyr Ile Leu Asp Cys Val Glu Arg Asn Glu Arg Leu Glu Leu
                85                  90                  95

Glu Ala Tyr Arg Leu Gly Pro Ala Ser Ala Ala Asp Thr Gly Ser Glu
            100                 105                 110

Ala Lys Pro Gly Ala Leu Ala Glu Gly Ala Ala Glu Pro Glu Pro Gln
        115                 120                 125

Arg His Ala Gly Arg Ile Ala Phe Thr Asp Ala Asp Asp Val Ala Ile
    130                 135                 140

Leu Thr Tyr Val Lys Glu Asn Ala Arg Ser Pro Ser Ser Val Thr Gly
145                 150                 155                 160

Asn Ala Leu Trp Lys Ala Met Glu Lys Ser Ser Leu Thr Gln His Ser
                165                 170                 175

Trp Gln Ser Leu Lys Asp Arg Tyr Leu Lys His Leu Arg Gly Gln Glu
            180                 185                 190

His Lys Tyr Leu Leu Gly Asp Ala Pro Val Ser Pro Ser Ser Gln Lys
        195                 200                 205

Leu Lys Arg Lys Ala Glu Glu Asp Pro Glu Ala Ala Asp Ser Gly Glu
    210                 215                 220

Pro Gln Asn Lys Arg Thr Pro Asp Leu Pro Glu Glu Glu Tyr Val Lys
225                 230                 235                 240

Glu Glu Ile Gln Glu Asn Glu Glu Ala Val Lys Lys Met Leu Val Glu
                245                 250                 255

Ala Thr Arg Glu Phe Glu Glu Val Val Val Asp Glu Ser Pro Pro Asp
```

```
            260                 265                 270

Phe Glu Ile His Ile Thr Met Cys Asp Asp Asp Pro Pro Thr Pro Glu
        275                 280                 285

Glu Asp Ser Glu Thr Gln Pro Asp Glu Glu Glu Glu Glu Glu Glu Glu
    290                 295                 300

Lys Val Ser Gln Pro Glu Val Gly Ala Ala Ile Lys Ile Ile Arg Gln
305                 310                 315                 320

Leu Met Glu Lys Phe Asn Leu Asp Leu Ser Thr Val Thr Gln Ala Phe
                325                 330                 335

Leu Lys Asn Ser Gly Glu Leu Glu Ala Thr Ser Ala Phe Leu Ala Ser
            340                 345                 350

Gly Gln Arg Ala Asp Gly Tyr Pro Ile Trp Ser Arg Gln Asp Asp Ile
        355                 360                 365

Asp Leu Gln Lys Asp Asp Glu Asp Thr Arg Glu Ala Leu Val Lys Lys
    370                 375                 380

Phe Gly Ala Gln Asn Val Ala Arg Arg Ile Glu Phe Arg Lys Lys
385                 390                 395
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<210> 95
<211> 1427
<212> DNA
<213> Homo sapiens

<400> 95

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<210> 96
<211> 129

<212> PRT
<213> Homo sapiens

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<221> UNSURE
<222> (104)

<220>
<221> UNSURE
<222> (115)

<400> 96
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Ile Val Ala Asp Thr Ser Trp Ser His Pro Pro Ala Ala Thr Leu Asn
20 25 30

Ser Leu Leu Glu Trp Ile Asp Asp Leu Leu Trp Gln Ser Thr Leu Gln
35 40 45

Phe Phe His Pro Asp Glu Val Leu Phe Phe Tyr Thr Tyr Ser Leu Ser
50 55 60

Tyr Ser Arg Ser Pro Ala Thr Leu Tyr Pro Ser Leu Ile Ile Ser Arg
65 70 75 80

Ile Pro Ser Thr Ser Pro Thr Pro Ser Ser Pro Ser Pro Ile Leu Pro
85 90 95

Met His Phe Pro Leu Phe Leu Xaa Leu Tyr Arg Cys Pro Cys Pro Ala
100 105 110

Ser Pro Xaa Gly Asn Phe Pro His Leu Pro Ile Pro Pro Asn Leu Phe
115 120 125

Gln

<210> 97
<211> 2482
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1663)

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<210> 98
<211> 413
<212> PRT
<213> Homo sapiens

<400> 98

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Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His Leu Arg
             20                  25                  30

Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu Thr Ser Pro
         35                  40                  45

Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr Val Cys Gly Ile
     50                  55                  60

Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu Ser Glu Leu Glu Asp
 65                  70                  75                  80

Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn Gly Thr Arg Thr Leu Thr
                 85                  90                  95

Arg Val Lys Val Gln Asp Leu Val Leu Glu Pro Thr Gln Asn Ile Thr
            100                 105                 110
```

```
Thr Lys Gly Val Ser Val Arg Arg Lys Arg Gln Val Tyr Gly Thr Asp
        115                 120                 125

Ser Arg Phe Ser Ile Leu Asp Lys Arg Phe Leu Thr Asn Phe Pro Phe
    130                 135                 140

Ser Thr Ala Val Lys Leu Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser
145                 150                 155                 160

Pro Gln His Val Leu Thr Ala Ala His Cys Val His Asp Gly Lys Asp
                165                 170                 175

Tyr Val Lys Gly Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg
            180                 185                 190

Asn Lys Ser Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg
        195                 200                 205

Glu Ala Ser Gly Gly Asp Gln Arg Glu Gly Thr Arg Glu His Leu Gln
    210                 215                 220

Glu Arg Ala Lys Gly Gly Arg Arg Arg Lys Lys Ser Gly Arg Gly Gln
225                 230                 235                 240

Lys Ile Ala Glu Gly Arg Pro Ser Phe Gln Trp Thr Arg Val Lys Asn
                245                 250                 255

Thr His Ile Pro Lys Gly Trp Ala Arg Gly Gly Met Gly Asp Ala Thr
            260                 265                 270

Leu Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Arg Ala His Lys Lys
        275                 280                 285

Lys Tyr Met Glu Leu Gly Ile Ser Pro Thr Ile Lys Lys Met Pro Gly
    290                 295                 300

Gly Met Ile His Phe Ser Gly Phe Asp Asn Asp Arg Ala Asp Gln Leu
305                 310                 315                 320

Val Tyr Arg Phe Cys Ser Val Ser Asp Glu Ser Asn Asp Leu Leu Tyr
                325                 330                 335

Gln Tyr Cys Asp Ala Glu Ser Gly Ser Thr Gly Ser Gly Val Tyr Leu
            340                 345                 350

Arg Leu Lys Asp Pro Asp Lys Lys Asn Trp Lys Arg Lys Ile Ile Ala
        355                 360                 365

Val Tyr Ser Gly His Gln Trp Val Asp Val His Gly Val Gln Lys Asp
    370                 375                 380

Tyr Asn Val Ala Val Arg Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys
385                 390                 395                 400

Leu Trp Ile His Gly Asn Asp Ala Asn Cys Ala Tyr Gly
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<210> 99
<211> 2054

<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (650)

<400> 99
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<212> PRT
<213> Homo sapiens

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Tyr Phe Asp Leu Gly Ile Trp Thr Xaa Pro Ile Ser Pro Xaa Ala Leu
20 25 30

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Thr Met Leu Asn Gly Leu Leu Ile Lys Asp Ser Ser Pro Pro Met Leu
          35                  40                  45

Leu Xaa Gln Val Xaa Lys Thr Ala Xaa Xaa Asp Xaa Phe Xaa Tyr Gln
      50                  55                  60

Xaa Cys Phe Met Xaa Ser Val Phe Asp His Phe Pro Glu Ile Leu Phe
 65                  70                  75                  80

Ile His Xaa Thr Tyr Asn Pro Arg Gly Lys Val Leu Tyr Xaa Phe Leu
                 85                  90                  95

Val Asp Gly Pro Xaa Val Gln Leu Glu Gly Xaa Leu Ala Arg Ala Val
            100                 105                 110

Tyr Phe Ala Ile Pro Ala Lys Glu Asp Thr Glu Gly Leu Ala Gln Met
        115                 120                 125

Phe Gln Val Phe Lys Lys Phe Asn Pro Ala Trp Glu Arg Val Cys Thr
    130                 135                 140

Ile Leu Val Asp Pro His Phe Leu Pro Leu Pro Ile Leu Ala Met Glu
145                 150                 155                 160

Phe Pro Thr Ala Glu Val Leu Leu Ser Ala Phe His Ile Cys Lys Phe
                165                 170                 175

Leu Gln Ala Lys Phe Tyr Gln Leu Ser Leu Glu Arg Pro Val Glu Arg
            180                 185                 190

Xaa Leu Leu Thr Ser Leu Gln Ser Thr Met Cys Ser Ala Thr Ala Gly
        195                 200                 205

Asn Leu Arg Lys Leu Tyr Thr Leu Leu Ser Asn Cys Ile Pro Pro Ala
    210                 215                 220

Lys Leu Pro Glu Leu His Ser His Trp Leu Leu Asn Asp Arg Ile Trp
225                 230                 235                 240

Leu Ala His Arg Trp Arg Ser Arg Ala Glu Ser Ser His Tyr Phe Gln
                245                 250                 255

Ser Leu Glu Val Thr Thr His Ile Leu Ser Gln Phe Phe Gly Thr Thr
            260                 265                 270

Pro Ser Glu Lys Gln Gly Met Ala Ser Leu Phe Arg Tyr Met Gln Gln
        275                 280                 285

Asn Ser Ala Asp Lys Ala Asn Phe Asn Gln Gly Leu Cys Ala Gln Asn
    290                 295                 300

Asn His Ala Pro Pro Asp Ile Ile Pro Glu Ser Pro Lys Leu Glu Gln
305                 310                 315                 320

Leu Val Glu Ser His Ile Gln His Ser Leu Asn Ala Ile Cys Thr Gly
                325                 330                 335

Pro Ala Ala Gln Leu Cys Leu Gly Glu Leu Ala Val Val Gln Lys Ser
            340                 345                 350
```

```
Thr His Leu Ile Gly Ser Gly Ser Glu Lys Met Asn Ile Gln Ile Leu
        355                 360                 365

Glu Asp Thr His Lys Val Gln Pro Xaa Pro Pro Ala Ser Cys Xaa Cys
    370                 375                 380

Tyr Phe Asn Gln Ala Phe His Leu Pro Cys Arg His Ile Leu Ala Met
385                 390                 395                 400

Leu Ser Ala Arg Arg Gln Val Leu Gln Pro Asp Met Leu Pro Ala Gln
                405                 410                 415

Trp Thr Ala Gly Cys Ala Thr Ser Leu Asp Ser Ile Leu Gly Ser Lys
            420                 425                 430

Trp Ser Glu Thr Leu Asp Lys His Leu Ala Val Thr His Leu Thr Glu
        435                 440                 445

Glu Val Gly Gln Leu Leu Gln His Cys Thr Lys Glu Glu Phe Glu Arg
    450                 455                 460

Arg Tyr Ser Thr Leu Arg Glu Leu Ala Asp Ser Trp Ile Gly Pro Tyr
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Glu Gln Val Gln Leu
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<210> 101
<211> 700
<212> DNA
<213> Homo sapiens

<400> 101

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ctgaactatg cctccccgat aaccgcagtc agccggccac tgaatgagat ggtcttgacc 180
ccactgacag agcaggaggg ggaagcctac ctggagaagt gtggcagcgt gcggcggcac 240
acggtggcca atgcccactc ggacatccag ctgctggcca tggccaccat gatgcactcs 300
ggcctggggg aggaggccar cagtgagaac aagtkcctgc tcctgccacc carcttcccc 360
ccgccccacc sgcagtgctc cagtkagccc aacatcaccg acaaccctga cggactggag 420
gaggggggca ggggcagcca ggagggctcg gagctgaact gtgcttccct cagctgagtc 480
gccacccctg ggcctttcca tctcctgttt tgcaaccagg atgrggaccc ctccatctcc 540
gtggattact gaggggggct cttgctttat gcgatgctgc cttatttcct ttagggtact 600
gtcctggtca aaatgaccta aggggaaacc gttgttgtaa acctttttat tttggaaaaa 660
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa                      700
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<210> 102
<211> 139
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (88)

<220>
<221> UNSURE
<222> (93)

<220>
<221> UNSURE
<222> (99)

<220>
<221> UNSURE
<222> (105)

<220>
<221> UNSURE
<222> (110)

<400> 102
Met Pro Val Phe Ser Arg Ala Pro Ala Arg Arg His Ser Arg Val Arg
1 5 10 15

Pro Lys Val Thr Val Leu Asn Tyr Ala Ser Pro Ile Thr Ala Val Ser
20 25 30

Arg Pro Leu Asn Glu Met Val Leu Thr Pro Leu Thr Glu Gln Glu Gly
35 40 45

Glu Ala Tyr Leu Glu Lys Cys Gly Ser Val Arg Arg His Thr Val Ala
50 55 60

Asn Ala His Ser Asp Ile Gln Leu Leu Ala Met Ala Thr Met Met His
65 70 75 80

Ser Gly Leu Gly Glu Glu Ala Xaa Ser Glu Asn Lys Xaa Leu Leu Leu
85 90 95

Pro Pro Xaa Phe Pro Pro Pro His Xaa Gln Cys Ser Ser Xaa Pro Asn
100 105 110

Ile Thr Asp Asn Pro Asp Gly Leu Glu Glu Gly Ala Arg Gly Ser Gln
115 120 125

Glu Gly Ser Glu Leu Asn Cys Ala Ser Leu Ser
130 135

<210> 103
<211> 658
<212> DNA
<213> Homo sapiens

<400> 103
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cagtggtgca aatgaatgtt tatacccatt ttcgaggatc ccatcaggga caagtgcagg 120
gcagtggccc atcagggtgg tgtctacaag ggaactttgg tccatctctc ttcagtgact 180
ggaggagccc ctggccagca tccttccaca castgctgct tgcaggcaca ggactggccc 240
ccaccttccc ggcctccagc gtggtggcaa gcctgcctga acctgggagt tcctcagggc 300
ccactttccaa atgccactga gccacagcag ggaacaagaa tcaaagagca ccccacccgc 360
cacccatgcc tatggccccc tccaagggtg tcagtggggt tcagtgggcc ctacaggccc 420
tcctcgaatc cagcccccatc tgcaagtccc aaagaaactt ttctaaagtt tctggaatgc 480
gggtgcaacc ctcactggtt tttgccccat ttttatgttc cattcatttc actgggattc 540
tgagaggggg aagataaact tgggttcaag ctaccctagc tgacccagga gttccatgga 600
aacagaattc tgaaaaaaaa aaaaaataaa taaataaata attaaaaaaa aaaaaaaa 658

<210> 104

<211> 155
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (46)

<400> 104
Met Phe Ile Pro Ile Phe Glu Asp Pro Ile Arg Asp Lys Cys Arg Ala
1 5 10 15

Val Ala His Gln Gly Gly Val Tyr Lys Gly Thr Leu Val His Leu Ser
20 25 30

Ser Val Thr Gly Gly Ala Pro Gly Gln His Pro Ser Thr Xaa Cys Cys
35 40 45

Leu Gln Ala Gln Asp Trp Pro Pro Pro Ser Arg Pro Pro Ala Trp Trp
50 55 60

Gln Ala Cys Leu Asn Leu Gly Val Pro Gln Gly Pro Leu Pro Asn Ala
65 70 75 80

Thr Glu Pro Gln Gln Gly Thr Arg Ile Lys Glu His Pro Thr Arg His
85 90 95

Pro Cys Leu Trp Pro Pro Pro Arg Val Ser Val Gly Phe Ser Gly Pro
100 105 110

Tyr Arg Pro Ser Ser Asn Pro Ala Pro Ser Ala Ser Pro Lys Glu Thr
115 120 125

Phe Leu Lys Phe Leu Glu Cys Gly Cys Asn Pro His Trp Phe Leu Pro
130 135 140

His Phe Tyr Val Pro Phe Ile Ser Leu Gly Phe
145 150 155

<210> 105
<211> 836
<212> DNA
<213> Homo sapiens

<400> 105
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ggaccaagca actaacagaa aatacatcat ggctgtacat ttggagggga aaaaaatagt 120
gtatcataga ataattcatc tcttgtcata tactttctcc cagttttgac ccagcaaaac 180
aaagagaagc ctcactagac aaaatgcacc ttattcttac aagggtggaa acaatacatt 240
gaaatagcca ggtacttgaa atgggagaag gataatgaac agcgaggaca agacagttgg 300
ccatttttcc gcgtctattg ctctctttct tatttctgca cctttattgc ttctaatggg 360
ttcaactatg tgtgtttata tttttaggaa tggaggaaat accttaggaa gcagatgaat 420
tattgatcat atacagaaat gatagagaca gtaggaaata tgtttgatgg aagccctgtg 480
tatatatttt tgggggagg ggcttgaagt cacttggtac acaggttttt gggtaaggat 540
tggagaaaat gggaataaat ttttctagaa gcagaactat gttctgaatt ggcatctttg 600
aaaggggga taaaccctta agtgggtggg actgtaactt tgtttgggga gacaaagagg 660
agactctctt gagaccttta ttatcaggat gaggtttaaa gtcagatccc aaggaaaaaa 720
cagcctagt gaaacttcca agctctttga gagttgactt tttggtttgg atagaaaatg 780
gaagtaagga taatagattt gactgtgtgc catggtagtg gaaaaaaaaa aaaaaa 836

<210> 106
<211> 47
<212> PRT
<213> Homo sapiens

<400> 106
Met Asn Ser Glu Asp Lys Thr Val Gly His Phe Ser Ala Ser Ile Ala
1 5 10 15

Leu Phe Leu Ile Ser Ala Pro Leu Leu Leu Leu Met Gly Ser Thr Met
20 25 30

Cys Val Tyr Ile Phe Arg Asn Gly Gly Asn Thr Leu Gly Ser Arg
35 40 45

<210> 107
<211> 1581
<212> DNA
<213> Homo sapiens

<400> 107
agaaaaacgg atcacagcca ctatggatga catgttgtct actcggtcta gcaccttgac 60
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tagcccagca cagagccacc ggaacatcaa gatcctagag gacgaacccc acagtaagga 180
tgagacccca ctgtgtaccc ttctggactg gcaggattct cttgccaagc gctgcgtctg 240
tgtgtccaat accattcgaa gcctgtcatt tgtgccaggc aatgactttg agatgtccaa 300
acacccaggg ctgctgctca tcctgggcaa gctgatcctg ctgcaccaca agcacccaga 360
acggaagcag gcaccactaa cttatgaaaa ggaggaggaa caggaccaag ggtgagctgc 420
aacaaaatgg agtggtggtg ggactgcttg gagatgctcc gggaaaacac cttggttaca 480
ctcgccaaca tctcggggca gttggaccta tctccatacc ccgagagcat ttgcctgcct 540
gtcctggacg gactcctaca ctgggcagtt tgcccttcag ctgaagccca ggaccccttt 600
tccaccctgg gccccaatgc cgtcctttcc ccgcagagac tggtcttgga aaccctcagc 660
aaactcagca tccaggacaa caatgtggac ctgattctgg ccacacccca cttcagccgc 720
ctggagaagt tgtatagcac tatggtgcgc ttcctcagtg accgaaagaa cccggtgtgc 780
cgggagatgg ctgtggtact gctggccaac ctggctcagg gggacagcct ggcagctcgt 840
gccattgcag tgcagaaggg cagtatcggc aacctcctgg gcttcctaga ggacagcctt 900
gccgccacac agttccagca gagccaggcc agcctcctcc acatgcagaa cccacccttt 960
gagccaacta gtgtggacat gatgcggcgg gctgcccgcg cgctgcttgc cttggccaag 1020
gtggacgaga accactcaga gtttacttct tacgaatcac ggctgttgga catctcggta 1080
tcaccgttga tgaactcatt ggtttcacaa gtcatttgtg atgtactgtt tttgattggc 1140
cagtcatgac agccgtggga cacctccccc cccccgtgtg tgtgtgcgtg tgtggagaac 1200
ttagaaactg actgttgccc tttatttatg caaaaccacc tcagaatcca gtttaccctg 1260
tgctgtccag cttctccctt gggaaaaagt ctctcctgtt tctctctcct ccttccacct 1320
ccctccctc catcacctca cgccttttctg ttccttgtcc tcaccttact cccctcagga 1380
ccctacccca ccctctttga aaagacaaag ctctgcctac atagaagact ttttttattt 1440
taaccaaagt tactgttgtt tacagtgagt ttggggaaaa aaaataaaat aaaaatggct 1500
ttcccagtcc ttgcatcaac gggatgccac atttcataac tgtttttaat ggtaaaaaaa 1560
aaaaaaaaaa aaaaaaaaaa a 1581

<210> 108
<211> 240
<212> PRT
<213> Homo sapiens

<400> 108
Met Glu Trp Trp Trp Asp Cys Leu Glu Met Leu Arg Glu Asn Thr Leu
1 5 10 15

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Val Thr Leu Ala Asn Ile Ser Gly Gln Leu Asp Leu Ser Pro Tyr Pro
            20                  25                  30

Glu Ser Ile Cys Leu Pro Val Leu Asp Gly Leu Leu His Trp Ala Val
        35                  40                  45

Cys Pro Ser Ala Glu Ala Gln Asp Pro Phe Ser Thr Leu Gly Pro Asn
    50                  55                  60

Ala Val Leu Ser Pro Gln Arg Leu Val Leu Glu Thr Leu Ser Lys Leu
65                  70                  75                  80

Ser Ile Gln Asp Asn Asn Val Asp Leu Ile Leu Ala Thr Pro Pro Phe
                85                  90                  95

Ser Arg Leu Glu Lys Leu Tyr Ser Thr Met Val Arg Phe Leu Ser Asp
            100                 105                 110

Arg Lys Asn Pro Val Cys Arg Glu Met Ala Val Val Leu Leu Ala Asn
        115                 120                 125

Leu Ala Gln Gly Asp Ser Leu Ala Ala Arg Ala Ile Ala Val Gln Lys
    130                 135                 140

Gly Ser Ile Gly Asn Leu Leu Gly Phe Leu Glu Asp Ser Leu Ala Ala
145                 150                 155                 160

Thr Gln Phe Gln Gln Ser Gln Ala Ser Leu Leu His Met Gln Asn Pro
                165                 170                 175

Pro Phe Glu Pro Thr Ser Val Asp Met Met Arg Arg Ala Ala Arg Ala
            180                 185                 190

Leu Leu Ala Leu Ala Lys Val Asp Glu Asn His Ser Glu Phe Thr Leu
        195                 200                 205

Tyr Glu Ser Arg Leu Leu Asp Ile Ser Val Ser Pro Leu Met Asn Ser
    210                 215                 220

Leu Val Ser Gln Val Ile Cys Asp Val Leu Phe Leu Ile Gly Gln Ser
225                 230                 235                 240
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<210> 109
<211> 1684
<212> DNA
<213> Homo sapiens

<400> 109
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tgttttcgctg gtcctgttga tgcctggccc ctgtgatggg ctgtttcact ccctatacag 180
aagtgtttcc atgccaccta agggagactc aggacagcca ttatttctca ccccttacat 240
tgaagctggg aagatccaaa aaggaagaga attgagtttg gtcggtcctt tcccaggact 300
gaacatgaag agttatgccg gcttcctcac cgtgaataag acttacaaca gcaacctctt 360
cttctggttc ttcccagctc agatacagcc agaagatgcc ccagtagttc tctggctaca 420
gggtgggccg ggaggttcat ccatgtttgg actctttgtg gaacatgggc cttatgttgt 480
cacaagtaac atgaccttgc gtgacagaga cttcccctgg accacaacgc tctccatgct 540
ttacattgac aatccagtgg gcacaggctt cagttttact gatgataccc acggatatgc 600
agtcaatgag gacgatgtag cacgggattt atacagtgca ctaattcagt ttttccagat 660

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tgtgccagcc attgcacacc tcatccattc cctcaaccct gtgagagagg tgaagatcaa 780
cctgaacgga attgctattg gagatggata ttctgatccc gaatcaatta taggggggcta 840
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gcagtgccat gaatgcatag aacacatcag gaagcagaac tggtttgagg cctttgaaat 960
actggataaa ctactagatg gcgacttaac aagtgatcct tcttacttcc agaatgttac 1020
aggatgtagt aattactata acttttgcg gtgcacggaa cctgaggatc agctttacta 1080
tgtgaaattt ttgtcactcc cagaggtgag acaagccatc cacgtgggga atcagacttt 1140
taatgatgga actatagttg aaaagtactt gcgagaagat acagtacagt cagttaagcc 1200
atggttaact gaaatcatga ataattataa ggttctgatc tacaatggcc aactggacat 1260
catcgtggca gctgccctga cagagcgctc cttgatgggc atggactgga aaggatccca 1320
ggaatacaag aaggcagaaa aaaaagtttg gaagatcttt aaatctgaca gtgaagtggc 1380
tggttacatc cggcaagcgg gtgacttcca tcaggtaatt attcgaggtg gaggacatat 1440
tttaccctat gaccagcctc tgagagcttt tgacatgatt aatcgattca tttatggaaa 1500
aggatgggat ccttatgttg gataaactac cttcccaaaa gagaacatca gaggttttca 1560
ttgctgaaaa gaaaatcgta aaaacagaaa atgtcatagg aataaaaaaa ttatcttttc 1620
atatctgcaa gatttttttc atcaataaaa attatccttg raaaaaaaaa aaaaaaaaaa 1680
aaaa                                                              1684
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<210> 110
<211> 476
<212> PRT
<213> Homo sapiens

<400> 110

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Met Val Gly Ala Met Trp Lys Val Ile Val Ser Leu Val Leu Leu Met
  1               5                  10                  15

Pro Gly Pro Cys Asp Gly Leu Phe His Ser Leu Tyr Arg Ser Val Ser
             20                  25                  30

Met Pro Pro Lys Gly Asp Ser Gly Gln Pro Leu Phe Leu Thr Pro Tyr
         35                  40                  45

Ile Glu Ala Gly Lys Ile Gln Lys Gly Arg Glu Leu Ser Leu Val Gly
     50                  55                  60

Pro Phe Pro Gly Leu Asn Met Lys Ser Tyr Ala Gly Phe Leu Thr Val
 65                  70                  75                  80

Asn Lys Thr Tyr Asn Ser Asn Leu Phe Phe Trp Phe Phe Pro Ala Gln
                 85                  90                  95

Ile Gln Pro Glu Asp Ala Pro Val Val Leu Trp Leu Gln Gly Gly Pro
            100                 105                 110

Gly Gly Ser Ser Met Phe Gly Leu Phe Val Glu His Gly Pro Tyr Val
        115                 120                 125

Val Thr Ser Asn Met Thr Leu Arg Asp Arg Asp Phe Pro Trp Thr Thr
    130                 135                 140

Thr Leu Ser Met Leu Tyr Ile Asp Asn Pro Val Gly Thr Gly Phe Ser
145                 150                 155                 160

Phe Thr Asp Asp Thr His Gly Tyr Ala Val Asn Glu Asp Asp Val Ala
                165                 170                 175

Arg Asp Leu Tyr Ser Ala Leu Ile Gln Phe Phe Gln Ile Phe Pro Glu
            180                 185                 190
```

```
Tyr Lys Asn Asn Asp Phe Tyr Val Thr Gly Glu Ser Tyr Ala Gly Lys
        195                 200                 205

Tyr Val Pro Ala Ile Ala His Leu Ile His Ser Leu Asn Pro Val Arg
    210                 215                 220

Glu Val Lys Ile Asn Leu Asn Gly Ile Ala Ile Gly Asp Gly Tyr Ser
225                 230                 235                 240

Asp Pro Glu Ser Ile Ile Gly Gly Tyr Ala Glu Phe Leu Tyr Leu Ile
                245                 250                 255

Gly Leu Leu Asp Glu Lys Gln Lys Lys Tyr Phe Gln Lys Gln Cys His
            260                 265                 270

Glu Cys Ile Glu His Ile Arg Lys Gln Asn Trp Phe Glu Ala Phe Glu
        275                 280                 285

Ile Leu Asp Lys Leu Leu Asp Gly Asp Leu Thr Ser Asp Pro Ser Tyr
    290                 295                 300

Phe Gln Asn Val Thr Gly Cys Ser Asn Tyr Tyr Asn Phe Leu Arg Cys
305                 310                 315                 320

Thr Glu Pro Glu Asp Gln Leu Tyr Tyr Val Lys Phe Leu Ser Leu Pro
                325                 330                 335

Glu Val Arg Gln Ala Ile His Val Gly Asn Gln Thr Phe Asn Asp Gly
            340                 345                 350

Thr Ile Val Glu Lys Tyr Leu Arg Glu Asp Thr Val Gln Ser Val Lys
        355                 360                 365

Pro Trp Leu Thr Glu Ile Met Asn Asn Tyr Lys Val Leu Ile Tyr Asn
    370                 375                 380

Gly Gln Leu Asp Ile Ile Val Ala Ala Ala Leu Thr Glu Arg Ser Leu
385                 390                 395                 400

Met Gly Met Asp Trp Lys Gly Ser Gln Glu Tyr Lys Lys Ala Glu Lys
                405                 410                 415

Lys Val Trp Lys Ile Phe Lys Ser Asp Ser Glu Val Ala Gly Tyr Ile
            420                 425                 430

Arg Gln Ala Gly Asp Phe His Gln Val Ile Ile Arg Gly Gly Gly His
        435                 440                 445

Ile Leu Pro Tyr Asp Gln Pro Leu Arg Ala Phe Asp Met Ile Asn Arg
    450                 455                 460

Phe Ile Tyr Gly Lys Gly Trp Asp Pro Tyr Val Gly
465                 470                 475
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<210> 111
<211> 750
<212> DNA
<213> Homo sapiens

<400> 111
acgatgtgtt gaccggctgc cgtttgagga ctttggtcac ccagactaga caccttctgt 60
gctcatgttt ggaaagctga aagggaagga cagctgtgcc ctcctgggag ctcatgtgtc 120
cctggcgctg tgctagcttt cctttacagc tgtttacaga caaggcaggc ctgaggcaga 180
tggccactgc tcttgtgatg tttgctcaga ggaatatgaa cattttattt ttgaaaaggg 240
atgatgtggt ttttgccagg tgtttataat taatccttta atattatggt tattaacctc 300
ttaaacatga atgaattctt gattgtttta acacagtacc taagactaat gcttttctgtg 360
gacaccactg agctctgcct caactccacc ctctgcgacc ggaggactat gcccctagta 420
actgctgtcg gtgtggacgc tgtgctggtt ctgttttcta aaggagcaga aggacaggtc 480
tctgagacag gatcgttgtc cctacaggag gaacagtggc cttgcttctt agacggtctt 540
cactgtgtgt tttaaaacaa caacaacaac aacaacaaca taaaactctt ttgacctgta 600
acttaaagat cataaacttc aggcaataat attttctgtg taagctttta aaattatttt 660
tggggatcat agcttgtttt attttgtgct ataaaattaa cagtattaaa tgacttatat 720
tcttagaata aaaaaaaaaa aaaaaaaaaa   750

<210> 112
<211> 89
<212> PRT
<213> Homo sapiens

<400> 112
Met Val Ile Asn Leu Leu Asn Met Asn Glu Phe Leu Ile Val Leu Thr
  1   5   10   15

Gln Tyr Leu Arg Leu Met Leu Ser Val Asp Thr Thr Glu Leu Cys Leu
             20   25   30

Asn Ser Thr Leu Cys Asp Arg Arg Thr Met Pro Leu Val Thr Ala Val
         35   40   45

Gly Val Asp Ala Val Leu Val Leu Phe Ser Lys Gly Ala Glu Gly Gln
     50   55   60

Val Ser Glu Thr Gly Ser Leu Ser Leu Gln Glu Glu Gln Trp Pro Cys
 65   70   75   80

Phe Leu Asp Gly Leu His Cys Val Phe
                 85

<210> 113
<211> 2156
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1353)

<400> 113
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ccagcctatt ctttttgtt tgtgataatg gtcatcctaa tggacatgag gtagtgtcat 120
gtggttttga tttgcatgtc cctgataaat aatgatgttg accatctact catgtgcttg 180
ttggctattt gcatggcgtg tttggagaaa cgtctgttca agggctttgc ctttttttt 240
tgagacagar tcttactccg ttgccccarg ctggagtkcg gtggtgaggg gtgcactgca 300
acatccgcct tccaggttca agcgattctt gtgcctcagc ctcccaaaga gctgggatta 360
caaaagtgca gtttgcccat ttttaatcga ttttgttcct gagttggagt ttttgtata 420
ttcaggctgt taaccccttа tgagatagat ggtttgcaca tagtctcttc cattctatag 480
gatatcattt ctgttaatag attcctttgc tgtgcagaaa ctttttagtt tgaggtcatc 540

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ccatttgtct atttttactt tcgttgccct tgctgttggt gtcatgttca agaaatcatt 600
gccaagacca atgtcgtgaa gtctttccct ttgtttttctt ctaagggttt tacagtttca 660
agtctgtgtt tgggtcttgc atcggttttg agttagtttt tgtgtatgat gtaaggtaag 720
ggtctatctt tatttgcaag tggatatcca gtttttcccag cgctgcatat tgaagagacc 780
atcctttccc cattgtgcaa gaagttcttg tcacccttgt tgaaggtcat ctgtctgtca 840
ttgtcatttc tggccctgtg ctgtcctgtc ctgtcctgtc ctgtcctgtt ctgttctgtt 900
ggtctgtagg tctgtcttta tgtcagcacc atactggctg ttggacttttaattcttttt 960
cttgacagtg gtaatttatt tgcttctttt tcttattagt ccctttgcct actttaaata 1020
attaatttg ttaatttttta gtttttctgtt attttagttc attaatttca ttgcttcctt 1080
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cagtctcctg agtagctggg attacaggca cttgccacca tgcccggcta attttttgta 1260
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agtttttttt tttttgcact tggggtcaaa tggcatgtca tatgtgctgt tacctgaaat 1560
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tggagaagca tgatgactcc atggggtaca gaatttagaa catccttgtc agattgagtc 1680
tatggtgatg tgtcttaagt cgtcccttag tctttttttt cctaatcagt ctgtcaaatt 1740
tcagagaacc atgttaaaat cccctattat tgtgggttttg aaggttgttt ccagtgtttt 1800
tccttcattt aattcttcct ctgtcgctgt gcgcctgcag attccaggct gcttgacatg 1860
ggttcctttc catatgggag tgagccagca gacagcccta cagatcgtac acacgttttc 1920
caaaactaac aatggaacag gcggcaaacc tatgccaata tactagaaat tgcagattaa 1980
atagatgaaa tattctaaac tggagtttac ataatgaaca taagagtaat cagagaatct 2040
gactcatttt agatgtgtgt gtgtgtgtat atatatgtgt gtgtgtgtga aaaacattga 2100
ctataataaa aataatctcg agttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa     2156
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<210> 114
<211> 94
<212> PRT
<213> Homo sapiens

<400> 114

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Met Val Met Cys Leu Lys Ser Ser Leu Ser Leu Phe Phe Pro Asn Gln
  1               5                  10                  15

Ser Val Lys Phe Gln Arg Thr Met Leu Lys Ser Pro Ile Ile Val Val
            20                  25                  30

Leu Lys Val Val Ser Ser Val Phe Pro Ser Phe Asn Ser Ser Ser Val
        35                  40                  45

Ala Val Arg Leu Gln Ile Pro Gly Cys Leu Thr Trp Val Pro Phe His
    50                  55                  60

Met Gly Val Ser Gln Gln Thr Ala Leu Gln Ile Val His Thr Phe Ser
65                  70                  75                  80

Lys Thr Asn Asn Gly Thr Gly Gly Lys Pro Met Pro Ile Tyr
                85                  90
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<210> 115
<211> 3941
<212> DNA
<213> Homo sapiens

<220>
<221> unsure

<222> (2895)

<400> 115
cagacacaga gatcagaatt ccaggaaatg atcttccagt gcgttctggg tcagttatgg 60
tgactgtaaa taccgtcatc acagctggcc ctcaaaataa cgcaataata acatatttac 120
ataatgacat attatgactg taagtgcagt cagccccatc tggggctgag gcgggggccc 180
tgctgtgcac tctccccca gctatcccac cgggccaggg gtgggcctca gggttgtgct 240
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gcagaggccg gtgacctggc gaggacttgc ccaggagatt ggagctcctt gcttctgcgc 360
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<210> 116
<211> 70
<212> PRT
<213> Homo sapiens

<400> 116
Met Cys Cys Tyr Cys Arg Ile Phe Cys Leu Arg Cys Thr Tyr Phe Pro
  1               5                  10                  15

Val His Cys Gly Met Cys Asn Leu Arg Tyr Phe Glu Phe Ser Thr Phe
            20                  25                  30

Leu Leu Ser Leu Ser Leu Ile Thr Tyr Cys Phe Trp Asp Pro Pro His
        35                  40                  45

Arg Gly Ser His Ser Leu Ser Leu Glu His Thr Pro Leu Asp Phe Leu
    50                  55                  60

Glu Trp Gly Leu Leu Arg
 65                  70


<210> 117
<211> 1779
<212> DNA
<213> Homo sapiens

<400> 117
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ttaacagcta gggttttccc agactgaata ataataataa ctttttttaaa attcagaagg 180
tatcttcaag ttcttggctt gcttcttgta cattcaatat caaagaagag aaaacacact 240
atctgagagt acttcccatg cacctaataa gtgccaaagc cacctggtgc tagagccctt 300
caccaaaatg agcatcagcc ttgctttcag aaagcaggga ccacatatat atgatttaaa 360
aaaaatctgc gatcaacttt tctctaaaaa acccaaatat gctggggtac agaaagatca 420
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tcagaaagaa actcctaagc tggcctggcc aaagggagga agaacccagg gtgggtgtcg 540
taactcatct aaaaataacg atgtcatcag gcagatgtgc cattgtgctg gggctgggtg 600
ggtgtggcag gcccaccttg ggtatgcaaa gctctgacag tgtttcactt gctaccctcg 660
gtctgcttac cacactccca gttctgctga ccttacggga aggctcatgc tgggttgact 720
cacggcaggc ctagagcact gtgagggatg tgtgaggaca agggtcacac cccagggtgg 780
catttccaag ccccatgcct ctggccatat cccatagggg ctctaggcct ctgttttccc 840
atctttaaaa taattggggg caatacctcc tatgatcttt ctgagaatta atagagattt 900
catggcaatt gcttagccct gcccagcaga gatagcaaat aatcaatcag ctccctttct 960
cctctgtctc ttgggtgttt tctactcctg gaaccccaga gcaagagagg accctgaaac 1020
atggcctaca tccaatttct tcattttgca tttgaggaaa tcgaggcaca tggctgcggt 1080
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gcctttcacg tggttcttac ggatacccag aaagatgact cagcttctcc agatttctga 1200
gaagactaag cataagtcag agagagtata gacaaaggaa aaggggggcat aactgcaagg 1260
acccccтcaa atgtgtgctg tggcagcatt ggtgggacag gggctgaaag agcaaaacag 1320
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aggagatgga ggttgcagtg agctgagatg gcaccactgc actccagtct gggtgacaga 1740
gcaagaccca gactcaaaaa aaaaaaaaaa aaaaaaaaa                        1779
```

<210> 118
<211> 109
<212> PRT
<213> Homo sapiens

<400> 118

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Met Ser Ile Ser Leu Ala Phe Arg Lys Gln Gly Pro His Ile Tyr Asp
  1               5                  10                  15

Leu Lys Lys Ile Cys Asp Gln Leu Phe Ser Lys Lys Pro Lys Tyr Ala
             20                  25                  30

Gly Val Gln Lys Asp Gln Cys Lys Ser Lys Thr Ser Cys Ala Cys Pro
         35                  40                  45

Arg Gly Pro Gln Arg Gln Asp Ala Pro Thr Gln Lys Glu Thr Pro Lys
     50                  55                  60

Leu Ala Trp Pro Lys Gly Gly Arg Thr Gln Gly Gly Cys Arg Asn Ser
 65                  70                  75                  80

Ser Lys Asn Asn Asp Val Ile Arg Gln Met Cys His Cys Ala Gly Ala
                 85                  90                  95

Gly Trp Val Trp Gln Ala His Leu Gly Tyr Ala Lys Leu
            100                 105
```

<210> 119
<211> 1170
<212> DNA
<213> Homo sapiens

<400> 119

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taccaggtcc gcgtgagggg ttcgggggtt ctgggcaggc acaatggcgt ctcgagcagg 120
cccgcgagcg gccggcaccg acggcagcga ctttcagcac cgggagcgcg tcgccatgca 180
ctaccagatg agtgtgaccc tcaagtatga aatcaagaag ctgatctacg tacatctggt 240
catatggctg ctgctggttg ctaagatgag cgtgggacac ctgaggctct tgtcacatga 300
tcaggtggcc atgccctatc agtgggaata cccgtatttg ctgagcattt tgccctctct 360
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catgggactc ttttccatcg ctccactcat ttatggcagc atggagatgt tccctgctgc 480
acagcagctc taccgccatg gcaaggccta ccgtttcctc tttggtttttt ctgccgtttc 540
catcatgtac ctggtgttgg tgttggcagt gcaagtgcat gcctggcagt tgtactacag 600
caagaagctc ctagactctt ggttcaccag cacacaggag aagaagcata aatgaagcct 660
ctttggggtg aagcctggac atcccatcga atgaaaggac actagtacag cggttccaaa 720
atccctttctg gtgatttttag cagctgtgat gttggtacct ggtgcagacc aggccaaagt 780
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ggtttttctt taagaatgag cttcgtcctt gcctctactc ggtcattctc cccatttcca 960
tccattaccc cttagccatt gagactaaag gaaataggga ataaatcaaa ttacttcatc 1020
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tctaggtcac gggtcaggaa acatttgggc agctgctccc ttggcagctg tggtctcctc 1080
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1170

<210> 120
<211> 183
<212> PRT
<213> Homo sapiens

<400> 120
Met Ala Ser Arg Ala Gly Pro Arg Ala Ala Gly Thr Asp Gly Ser Asp
1 5 10 15

Phe Gln His Arg Glu Arg Val Ala Met His Tyr Gln Met Ser Val Thr
20 25 30

Leu Lys Tyr Glu Ile Lys Lys Leu Ile Tyr Val His Leu Val Ile Trp
35 40 45

Leu Leu Leu Val Ala Lys Met Ser Val Gly His Leu Arg Leu Leu Ser
50 55 60

His Asp Gln Val Ala Met Pro Tyr Gln Trp Glu Tyr Pro Tyr Leu Leu
65 70 75 80

Ser Ile Leu Pro Ser Leu Leu Gly Leu Leu Ser Phe Pro Arg Asn Asn
85 90 95

Ile Ser Tyr Leu Val Leu Ser Met Ile Ser Met Gly Leu Phe Ser Ile
100 105 110

Ala Pro Leu Ile Tyr Gly Ser Met Glu Met Phe Pro Ala Ala Gln Gln
115 120 125

Leu Tyr Arg His Gly Lys Ala Tyr Arg Phe Leu Phe Gly Phe Ser Ala
130 135 140

Val Ser Ile Met Tyr Leu Val Leu Val Leu Ala Val Gln Val His Ala
145 150 155 160

Trp Gln Leu Tyr Tyr Ser Lys Lys Leu Leu Asp Ser Trp Phe Thr Ser
165 170 175

Thr Gln Glu Lys Lys His Lys
180

<210> 121
<211> 1127
<212> DNA
<213> Homo sapiens

<400> 121
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acatttagaa acgagtttcc aacagacaga tccgtgtttgt actttctgatg cacagccaca 180
tgcatttctc ctcagtggac cagcttcacc agggacttca tctgcagcat cctcaccatt 240
aaaaaaagaa cagcccttat ttactctacg gcaggttggg atgatctgtg aacgtttgtt 300
gaaagaacgt gaagagaaag ttcgagaaga atatgaagaa atattgaaca caaaacttgc 360
agaacaatat gatgcgtttg tgaagtttac gcatgatcaa ataatgcgac gatatggaga 420

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ttttggaaat ttccctgatg tcagtaccac ctggatgtgg acctttgcta cctgtattaa 660
taccagtggc ctcattttgc tgtatcatta caatttggct tcttatatta atgtttgaaa 720
aggattaaag ctggtattct agaacatgcc cttcactggt tgtgtaaata aaactgtaga 780
atgacacttc agatgaagtt agtgtgattt taattgtgca ctacaaccga gctgtaacca 840
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tgtgaaatag tgaaggagga gggcatttct gtattccagg acttcttggg gtttcagaat 960
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tgtttattgc tgcatttttt ttttccagt gtatcattgt tttactgccc ttgtagtact 1080
ggaatttagt tggaagaata aaacatttac ttctaaaaaa aaaaaaa               1127
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<210> 122
<211> 140
<212> PRT
<213> Homo sapiens

<400> 122

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Met Glu Pro Ser Pro Phe Gly Asp Val Ser Ser Arg Leu Thr Thr Glu
  1               5                  10                  15

Gln Ile Leu Tyr Asn Ile Lys Gln Glu Tyr Lys Arg Met Gln Lys Arg
             20                  25                  30

Arg His Leu Glu Thr Ser Phe Gln Gln Thr Asp Pro Cys Cys Thr Ser
         35                  40                  45

Asp Ala Gln Pro His Ala Phe Leu Leu Ser Gly Pro Ala Ser Pro Gly
     50                  55                  60

Thr Ser Ser Ala Ala Ser Ser Pro Leu Lys Lys Glu Gln Pro Leu Phe
 65                  70                  75                  80

Thr Leu Arg Gln Val Gly Met Ile Cys Glu Arg Leu Leu Lys Glu Arg
                 85                  90                  95

Glu Glu Lys Val Arg Glu Glu Tyr Glu Glu Ile Leu Asn Thr Lys Leu
            100                 105                 110

Ala Glu Gln Tyr Asp Ala Phe Val Lys Phe Thr His Asp Gln Ile Met
        115                 120                 125

Arg Arg Tyr Gly Glu Gln Pro Ala Ser Tyr Val Ser
    130                 135                 140
```

<210> 123
<211> 806
<212> DNA
<213> Homo sapiens

<400> 123

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gctgctgtta gtggccactg tggcccttgc atccagaaga ttccaagcct ggggctcaac 180
aaargtggtg aggacattcc aagatatccc tcaaaactac gtctatgtkc arcakgcact 240
ctggttcgcc atagaaggag tataacaagg ccagctttag tataacaagt tcagctttag 300
ggtgctgaag gttctgaaga gccasgarca ggtgacagat agtttggagt actatattga 360
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agaggatccc aaaatgcaaa aggtggtttt ttgtayttct attgttgcat ctaaaccatg 480
gaaatttgaa ctcaccatgy tgraaacaat gcaaagatat gtagttatct tctmgtgtgt 540
tctgccacac tcatttccat tttaaagaag aagcaaagac ayttgcaaga aytagaacaa 600
cacagttaac ccattaactt catttgtttg gccttttttgc atttttgtgt gttcttcatg 660
ggctgatgtt gaaaatccat gatgtgtttt gacagcattg catagcctat tcttgctgga 720
tacttcccct actagctggg ataatctgyt gcaataaatg gaagtggttt cttacacstc 780
aaaaaaaaaa aaaaaaaaa aaaaaa                                      806

<210> 124
<211> 55
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (46)

<400> 124
Met Val Arg Leu Cys Gln Ala Leu Leu Leu Leu Val Ala Thr Val Ala
  1               5                  10                  15

Leu Ala Ser Arg Arg Phe Gln Ala Trp Gly Ser Thr Lys Val Val Arg
            20                  25                  30

Thr Phe Gln Asp Ile Pro Gln Asn Tyr Val Tyr Val Gln Xaa Ala Leu
        35                  40                  45

Trp Phe Ala Ile Glu Gly Val
    50                  55


<210> 125
<211> 1783
<212> DNA
<213> Homo sapiens

<400> 125
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ggacaggttc cccagtccct atgtggtctt atttttaccc ttgcactccc tgtagaccat 120
caattctaca ccctaattac aaaatcatat ccacctctgc ctggcagaag gtgttatgct 180
ttttctggctc gcctaccatc cacacatccc tacacctcac caccggatcc tcttttcttt 240
ccttccatcc aattcctggc ttccccgctg ccaactctgc tctctatgtc tccagtttaa 300
aggtgccccc tggaaaaaat gtaacaattc cctcacctgt gactggtacc tgacagccac 360
cacaccgggg cagcaatggc taacggttga caaagacaat ttctttctct ctccaaaacc 420
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aacacattga taatatattt caccttgcc acgtctaata ccagagccta cgaggaaacc 1320
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accagggcct gagctgtgag aaacatcctg tcaggcaggt cccaggccta acccctggst 1560
gcactaaatt ccttcattat cagcagccaa acacacgccc cccaccccat tttcacaaca 1620
atcccagacc tctcctgccc gggactgtaa ctggtccagc ctgtaagcgg gaaggggct 1680
ctggcactag stggtacccc ctctcgcag gtctttctcc caataaatct gtgttgccct 1740
tgraaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaaa aaa                    1783
```

<210> 126
<211> 136
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (108)

<400> 126

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Met Leu Phe Trp Leu Ala Tyr His Pro His Ile Pro Thr Pro His His
  1               5                  10                  15

Arg Ile Leu Phe Ser Phe Leu Pro Ser Asn Ser Trp Leu Pro Arg Cys
            20                  25                  30

Gln Leu Cys Ser Leu Cys Leu Gln Phe Lys Gly Ala Pro Trp Lys Lys
        35                  40                  45

Cys Asn Asn Ser Leu Thr Cys Asp Trp Tyr Leu Thr Ala Thr Thr Pro
    50                  55                  60

Gly Gln Gln Trp Leu Thr Val Asp Lys Asp Asn Phe Phe Leu Ser Pro
65                  70                  75                  80

Lys Pro Asn Ser Leu His Gln Leu Pro Ser Gln Asp Ser Leu Ser Gly
                85                  90                  95

Pro Tyr Arg Cys Arg Ser Gly Trp Gln Leu Pro Xaa Leu Gly Lys Arg
            100                 105                 110

Lys Tyr Pro Ile Met Ala Thr Tyr Leu His Leu Gln Leu Leu Pro Val
        115                 120                 125

His Pro Gln Ser Leu Leu Phe Val
    130                 135
```

<210> 127
<211> 3149
<212> DNA
<213> Homo sapiens

<400> 127

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aagttcctac agctaccaca gcagaaagtg ctgggcagta gagagctgcc ccctccagaa 180
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<210> 128
<211> 380
<212> PRT
<213> Homo sapiens

<400> 128
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Leu Asp Thr Leu Ser Leu Gly Ile His Leu Glu Lys Lys Asn Asp Asp
20 25 30

His Ser Ser Trp Arg Lys Val Leu Glu Lys Cys Gln Gly Val Val Asp
35 40 45

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Ile Pro Phe Arg Ser Lys Gly Met Ser Arg Leu Gly Glu Glu Val Asn
     50                  55                  60

Gly Glu Ala Thr Glu Ser Gln Gln Lys Pro Arg Asn Lys Lys Ser Lys
 65                  70                  75                  80

Met Asp Gly Met Val Pro Gly Asn His Gln Gly Arg Asp Pro Arg Lys
                 85                  90                  95

His Lys Arg Lys Pro Leu Gly Val Gly Tyr Ser Ala Arg Lys Ser Pro
            100                 105                 110

Leu Tyr Asp Asn Cys Phe Leu His Ala Pro Asp Gly Gln Pro Leu Cys
        115                 120                 125

Thr Cys Asp Arg Arg Lys Ala Gln Trp Tyr Leu Asp Lys Gly Ile Gly
    130                 135                 140

Glu Leu Val Ser Glu Glu Pro Phe Val Val Lys Leu Arg Phe Glu Pro
145                 150                 155                 160

Ala Gly Arg Pro Glu Ser Pro Gly Asp Tyr Tyr Leu Met Val Lys Glu
                165                 170                 175

Asn Leu Cys Val Val Cys Gly Lys Arg Asp Ser Tyr Ile Arg Lys Asn
            180                 185                 190

Val Ile Pro His Glu Tyr Arg Lys His Phe Pro Ile Glu Met Lys Asp
        195                 200                 205

His Asn Ser His Asp Val Leu Leu Leu Cys Thr Ser Cys His Ala Ile
    210                 215                 220

Ser Asn Tyr Tyr Asp Asn His Leu Lys Gln Gln Leu Ala Lys Glu Phe
225                 230                 235                 240

Gln Ala Pro Ile Gly Ser Glu Glu Gly Leu Arg Leu Leu Glu Asp Pro
                245                 250                 255

Glu Arg Arg Gln Val Arg Ser Gly Ala Arg Ala Leu Leu Asn Ala Glu
            260                 265                 270

Ser Leu Pro Thr His Arg Lys Glu Glu Leu Leu Gln Ala Leu Arg Glu
        275                 280                 285

Phe Tyr Asn Thr Asp Val Val Thr Glu Glu Met Leu Gln Glu Ala Ala
    290                 295                 300

Ser Leu Glu Thr Arg Ile Ser Asn Glu Asn Tyr Val Pro His Gly Leu
305                 310                 315                 320

Lys Val Val Gln Cys His Ser Gln Gly Gly Leu Arg Ser Leu Met Gln
                325                 330                 335

Leu Glu Ser Arg Trp Arg Gln His Phe Leu Asp Ser Met Gln Pro Lys
            340                 345                 350

His Leu Pro Gln Gln Trp Ser Val Asp His Asn His Gln Lys Leu Leu
        355                 360                 365
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Arg Lys Phe Gly Glu Asp Leu Pro Ile Gln Leu Ser
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<210> 129
<211> 1861
<212> DNA
<213> Homo sapiens

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a 1861

<210> 130
<211> 571
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (202)

<220>
<221> UNSURE
<222> (504)

<400> 130
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Leu Ala Asp Tyr Leu Thr Ser Ala Lys Phe Leu Leu Tyr Leu Gly His
            20                  25                  30

Ser Leu Ser Thr Trp Gly Asp Arg Met Trp His Phe Ala Val Ser Val
        35                  40                  45

Phe Leu Val Glu Leu Tyr Gly Asn Ser Leu Leu Leu Thr Ala Val Tyr
    50                  55                  60

Gly Leu Val Val Ala Gly Ser Val Leu Val Leu Gly Ala Ile Ile Gly
65                  70                  75                  80

Asp Trp Val Asp Lys Asn Ala Arg Leu Lys Val Ala Gln Thr Ser Leu
                85                  90                  95

Val Val Gln Asn Val Ser Val Ile Leu Cys Gly Ile Ile Leu Met Met
            100                 105                 110

Val Phe Leu His Lys His Glu Leu Leu Thr Met Tyr His Gly Trp Val
        115                 120                 125

Leu Thr Ser Cys Tyr Ile Leu Ile Ile Thr Ile Ala Asn Ile Ala Asn
    130                 135                 140

Leu Ala Ser Thr Ala Thr Ala Ile Thr Ile Gln Arg Asp Trp Ile Val
145                 150                 155                 160

Val Val Ala Gly Glu Asp Arg Ser Lys Leu Ala Asn Met Asn Ala Thr
                165                 170                 175

Ile Arg Arg Ile Asp Gln Leu Thr Asn Ile Leu Ala Pro Met Ala Val
            180                 185                 190

Gly Gln Ile Met Thr Phe Gly Ser Pro Xaa Ile Gly Cys Gly Phe Ile
        195                 200                 205

Ser Gly Trp Asn Leu Val Ser Met Cys Val Glu Tyr Val Leu Leu Trp
    210                 215                 220

Lys Val Tyr Gln Lys Thr Pro Ala Leu Ala Val Lys Ala Gly Leu Lys
225                 230                 235                 240

Glu Glu Glu Thr Glu Leu Lys Gln Leu Asn Leu His Lys Asp Thr Glu
                245                 250                 255

Pro Lys Pro Leu Glu Gly Thr His Leu Met Gly Val Lys Asp Ser Asn
            260                 265                 270

Ile His Glu Leu Glu His Glu Gln Glu Pro Thr Cys Ala Ser Gln Met
        275                 280                 285

Ala Glu Pro Phe Arg Thr Phe Arg Asp Gly Trp Val Ser Tyr Tyr Asn
    290                 295                 300

Gln Pro Val Phe Leu Ala Gly Met Gly Leu Ala Phe Leu Tyr Met Thr
305                 310                 315                 320

Val Leu Gly Phe Asp Cys Ile Thr Thr Gly Tyr Ala Tyr Thr Gln Gly
                325                 330                 335
```

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Leu Ser Gly Ser Ile Leu Ser Ile Leu Met Gly Ala Ser Ala Ile Thr
            340                 345                 350

Gly Ile Met Gly Thr Val Ala Phe Thr Trp Leu Arg Arg Lys Cys Gly
        355                 360                 365

Leu Val Arg Thr Gly Leu Ile Ser Gly Leu Ala Gln Leu Ser Cys Leu
    370                 375                 380

Ile Leu Cys Val Ile Ser Val Phe Met Pro Gly Ser Pro Leu Asp Leu
385                 390                 395                 400

Ser Val Ser Pro Phe Glu Asp Ile Arg Ser Arg Phe Ile Gln Gly Glu
                405                 410                 415

Ser Ile Thr Pro Thr Lys Ile Pro Glu Ile Thr Thr Glu Ile Tyr Met
            420                 425                 430

Ser Asn Gly Ser Asn Ser Ala Asn Ile Val Pro Glu Thr Ser Pro Glu
        435                 440                 445

Ser Val Pro Ile Ile Ser Val Ser Leu Leu Phe Ala Gly Val Ile Ala
    450                 455                 460

Ala Arg Ile Gly Leu Trp Ser Phe Asp Leu Thr Val Thr Gln Leu Leu
465                 470                 475                 480

Gln Glu Asn Val Ile Glu Ser Glu Arg Gly Ile Ile Asn Gly Val Gln
                485                 490                 495

Asn Ser Met Asn Tyr Leu Leu Xaa Leu Leu His Phe Ile Met Val Ile
            500                 505                 510

Leu Ala Pro Asn Pro Glu Ala Phe Gly Leu Leu Val Leu Ile Ser Val
        515                 520                 525

Ser Phe Val Ala Met Gly His Ile Met Tyr Phe Arg Phe Ala Gln Asn
    530                 535                 540

Thr Leu Gly Asn Lys Leu Phe Ala Cys Gly Pro Asp Ala Lys Glu Val
545                 550                 555                 560

Arg Lys Glu Asn Gln Ala Asn Thr Ser Val Val
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<210> 131
<211> 2157
<212> DNA
<213> Homo sapiens

<400> 131
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ctgctctaat tttgacttga tgctttctgt atctggtgca cagctgttac cttggaatct 360
tcccttcatc attattcaga gtgtttctgt agtttttctc ttgcattgga ttttgtgctt 420

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<210> 132
<211> 270
<212> PRT
<213> Homo sapiens

<400> 132
Met Ile Pro Asn Leu Asp Leu Asn Leu Asp Arg Asp Leu Val Leu Pro
  1               5                  10                  15

Asp Val Ser Tyr Gln Val Glu Ser Ser Glu Glu Asp Gln Ser Gln Thr
             20                  25                  30

Met Asp Pro Gln Gly Gln Thr Leu Leu Leu Phe Leu Phe Val Asp Phe
         35                  40                  45

His Ser Ala Phe Pro Val Gln Gln Met Glu Ile Trp Gly Val Tyr Thr
     50                  55                  60

Leu Leu Thr Thr His Leu Asn Ala Ile Leu Val Glu Ser His Ser Val
 65                  70                  75                  80

Val Gln Gly Ser Ile Gln Phe Thr Val Asp Lys Val Leu Glu Gln His
                 85                  90                  95

His Gln Ala Ala Lys Ala Gln Gln Lys Leu Gln Ala Ser Leu Ser Val
            100                 105                 110

Ala Val Asn Ser Ile Met Ser Ile Leu Thr Gly Ser Thr Arg Ser Ser
        115                 120                 125
```

```
Phe Arg Lys Met Cys Leu Gln Thr Leu Gln Ala Ala Asp Thr Gln Glu
    130                 135                 140

Phe Arg Thr Lys Leu His Lys Val Phe Arg Glu Ile Thr Gln His Gln
145                 150                 155                 160

Phe Leu His His Cys Ser Cys Glu Val Lys Gln Leu Thr Leu Glu Lys
                165                 170                 175

Lys Asp Ser Ala Gln Gly Thr Glu Asp Ala Pro Asp Asn Ser Ser Leu
            180                 185                 190

Glu Leu Leu Ala Val Leu Lys Gln Pro Ser Gln Pro Thr Ala Ala Gly
        195                 200                 205

Val Gln Gln Leu Ser His Ser Val Thr Ser Arg Asp Ala Arg Tyr Gln
    210                 215                 220

Arg Ala Ser Arg Lys Gln Glu Ala Gln Glu Gly Gln Pro Pro His Arg
225                 230                 235                 240

Gly Asp Ala Ser Ser Ala Leu Cys Gln Gly Pro Glu Pro Val Arg Gly
                245                 250                 255

Arg Pro Ala Pro Pro Gly Ser His Arg Gly Pro Pro His Ser
            260                 265                 270
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<210> 133
<211> 1607
<212> DNA
<213> Homo sapiens

<400> 133

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gattattctg cttccagtag gcatagctaa tctgaaacag atagaaaagc agctgaattc 720
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<210> 134
<211> 217
<212> PRT
<213> Homo sapiens

<400> 134
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Phe Gln Val Arg Glu Thr Val Lys Ser Pro Phe Gln Leu Ser Glu Gly
20 25 30

Lys Asn Val Thr Val Glu Met Met Tyr Gln Ile Gly Thr Phe Lys Leu
35 40 45

Ala Phe Val Lys Glu Pro Gln Met Gln Val Leu Glu Leu Pro Tyr Val
50 55 60

Asn Asn Lys Leu Ser Met Ile Ile Leu Leu Pro Val Gly Ile Ala Asn
65 70 75 80

Leu Lys Gln Ile Glu Lys Gln Leu Asn Ser Gly Thr Phe His Glu Trp
85 90 95

Thr Ser Ser Ser Asn Met Met Glu Arg Glu Val Glu Val His Leu Pro
100 105 110

Arg Phe Lys Leu Glu Ile Lys Tyr Glu Leu Asn Ser Leu Leu Lys Pro
115 120 125

Leu Gly Val Thr Asp Leu Phe Asn Gln Val Lys Ala Asp Leu Ser Gly
130 135 140

Met Ser Pro Thr Lys Gly Leu Tyr Leu Ser Lys Ala Ile His Lys Ser
145 150 155 160

Tyr Leu Asp Val Ser Glu Glu Gly Thr Glu Ala Ala Ala Ala Thr Gly
165 170 175

Asp Ser Ile Ala Val Lys Ser Leu Pro Met Arg Ala Gln Phe Lys Ala
180 185 190

Asn His Pro Phe Leu Phe Phe Ile Arg His Thr His Thr Asn Thr Ile
195 200 205

Leu Phe Cys Gly Lys Leu Ala Ser Pro
210 215

<210> 135
<211> 1537
<212> DNA
<213> Homo sapiens

<400> 135
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gcctgcatgc atgcgtgtgc cgggctgggc tgggcggccg gcggtcgtgg ggcagggttg 180

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tgggcgaatc tcctccaagg aagtcccagg aggatgggga ccaggaaggc tgtggacccc 360
catctccagg gggccttccc agcctgatcc ctgtcctcca agttctggag gaggccgctg 420
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```

<210> 136
<211> 86
<212> PRT
<213> Homo sapiens

<400> 136

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Met His Ala Cys Ala Gly Leu Gly Trp Ala Ala Gly Gly Arg Gly Ala
  1               5                  10                  15

Gly Leu Gly Val Cys Ala Gln Leu Ile Thr Ala Met His Cys Thr Ala
            20                  25                  30

His Val Pro Arg Ala Tyr Arg Asp Pro Thr Leu Phe Arg Ala Phe Leu
        35                  40                  45

Pro Pro Ala Arg Ala Gln Leu Pro Pro Ala Trp Ala Asn Leu Leu Gln
    50                  55                  60

Gly Ser Pro Arg Arg Met Gly Thr Arg Lys Ala Val Asp Pro His Leu
 65                  70                  75                  80

Gln Gly Ala Phe Pro Ala
                85
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<210> 137
<211> 1302
<212> DNA
<213> Homo sapiens

<400> 137

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tctctgcctt cccgctgcaa gagtgaatga gcgatccctc tcaactgact caaaatgttt 180
gcctcaccca ggagatggag ctctcgaagg ccttctctgg ccagcggaca ctcctatctg 240
ccatcctcag catgctatca ctcagcttct ccacaacatc cctgctcagc aactactggt 300
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```
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gacttcaatt catcagcttc ctcctgctac taacagactt gctactcact gggaaccctg 660
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<210> 138
<211> 339
<212> PRT
<213> Homo sapiens

<400> 138
Met Ser Asp Pro Ser Gln Leu Thr Gln Asn Val Cys Leu Thr Gln Glu
  1               5                  10                  15

Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr Leu Leu Ser Ala
             20                  25                  30

Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr Thr Ser Leu Leu Ser
         35                  40                  45

Asn Tyr Trp Phe Val Gly Thr Gln Lys Val Pro Lys Pro Leu Cys Glu
     50                  55                  60

Lys Gly Leu Ala Ala Lys Cys Phe Asp Met Pro Val Ser Leu Asp Gly
 65                  70                  75                  80

Asp Thr Asn Thr Ser Thr Gln Glu Val Val Gln Tyr Asn Trp Glu Thr
                 85                  90                  95

Gly Asp Asp Arg Phe Ser Phe Arg Ser Phe Arg Ser Gly Met Trp Leu
            100                 105                 110

Ser Cys Glu Glu Thr Val Glu Glu Pro Gly Glu Arg Cys Arg Ser Phe
        115                 120                 125

Ile Glu Leu Thr Pro Pro Ala Lys Arg Glu Ile Leu Trp Leu Ser Leu
    130                 135                 140

Gly Thr Gln Ile Thr Tyr Ile Gly Leu Gln Phe Ile Ser Phe Leu Leu
145                 150                 155                 160

Leu Leu Thr Asp Leu Leu Leu Thr Gly Asn Pro Ala Cys Gly Leu Lys
                165                 170                 175

Leu Ser Ala Phe Ala Ala Val Ser Ser Val Leu Ser Gly Leu Leu Gly
            180                 185                 190
```

```
Met Val Ala His Met Met Tyr Ser Gln Val Phe Gln Ala Thr Val Asn
        195                 200                 205

Leu Gly Pro Glu Asp Trp Arg Pro His Val Trp Asn Tyr Gly Trp Ala
    210                 215                 220

Phe Tyr Met Ala Trp Leu Ser Phe Thr Cys Cys Met Ala Ser Ala Val
225                 230                 235                 240

Thr Thr Phe Asn Thr Tyr Thr Arg Met Val Leu Glu Phe Lys Cys Lys
                245                 250                 255

His Ser Lys Ser Phe Lys Glu Asn Pro Asn Cys Leu Pro His His His
            260                 265                 270

Gln Cys Phe Pro Arg Arg Leu Ser Ser Ala Ala Pro Thr Val Gly Pro
        275                 280                 285

Leu Thr Ser Tyr His Gln Tyr His Asn Gln Pro Ile His Ser Val Ser
    290                 295                 300

Glu Gly Val Asp Phe Tyr Ser Glu Leu Arg Asn Lys Gly Phe Gln Arg
305                 310                 315                 320

Gly Ala Ser Gln Glu Leu Lys Glu Ala Val Arg Ser Ser Val Glu Glu
                325                 330                 335

Glu Gln Cys
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<210> 139
<211> 3184
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1644)

<400> 139

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<210> 140
<211> 454
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (442)

<400> 140
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Asn Gly Leu Ile Gln Gly Val Lys Gly Leu Leu Ser Phe Leu Ser Ala
20 25 30

Pro Leu Ile Gly Ala Leu Ser Asp Val Trp Gly Arg Lys Pro Phe Leu
35 40 45

Leu Gly Thr Val Phe Phe Thr Cys Phe Pro Ile Pro Leu Met Arg Ile
50 55 60

Ser Pro Trp Trp Tyr Phe Ala Met Ile Ser Val Ser Gly Val Phe Ser
65 70 75 80

```
Val Thr Phe Ser Val Ile Phe Ala Tyr Val Ala Asp Val Thr Gln Glu
                 85                  90                  95

His Glu Arg Ser Thr Ala Tyr Gly Trp Val Ser Ala Thr Phe Ala Ala
            100                 105                 110

Ser Leu Val Ser Ser Pro Ala Ile Gly Ala Tyr Leu Ser Ala Ser Tyr
        115                 120                 125

Gly Asp Ser Leu Val Val Leu Val Ala Thr Val Val Ala Leu Leu Asp
    130                 135                 140

Ile Cys Phe Ile Leu Val Ala Val Pro Glu Ser Leu Pro Glu Lys Met
145                 150                 155                 160

Arg Pro Val Ser Trp Gly Ala Gln Ile Ser Trp Lys Gln Ala Asp Pro
                165                 170                 175

Phe Ala Ser Leu Lys Lys Val Gly Lys Asp Ser Thr Val Leu Leu Ile
            180                 185                 190

Cys Ile Thr Val Phe Leu Ser Tyr Leu Pro Glu Ala Gly Gln Tyr Ser
        195                 200                 205

Ser Phe Phe Leu Tyr Leu Arg Gln Val Ile Gly Phe Gly Ser Val Lys
    210                 215                 220

Ile Ala Ala Phe Ile Ala Met Val Gly Ile Leu Ser Ile Val Ala Gln
225                 230                 235                 240

Thr Ala Phe Leu Ser Ile Leu Met Arg Ser Leu Gly Asn Lys Asn Thr
                245                 250                 255

Val Leu Leu Gly Leu Gly Phe Gln Met Leu Gln Leu Ala Trp Tyr Gly
            260                 265                 270

Phe Gly Ser Gln Ala Trp Met Met Trp Ala Ala Gly Thr Val Ala Ala
        275                 280                 285

Met Ser Ser Ile Thr Phe Pro Ala Ile Ser Ala Leu Val Ser Arg Asn
    290                 295                 300

Ala Glu Ser Asp Gln Gln Gly Val Ala Gln Gly Ile Ile Thr Gly Ile
305                 310                 315                 320

Arg Gly Leu Cys Asn Gly Leu Gly Pro Ala Leu Tyr Gly Phe Ile Phe
                325                 330                 335

Tyr Met Phe His Val Glu Leu Thr Glu Leu Gly Pro Lys Leu Asn Ser
            340                 345                 350

Asn Asn Val Pro Leu Gln Gly Ala Val Ile Pro Gly Pro Pro Phe Leu
        355                 360                 365

Phe Gly Ala Cys Ile Val Leu Met Ser Phe Leu Val Ala Leu Phe Ile
    370                 375                 380

Pro Glu Tyr Ser Lys Ala Ser Gly Val Gln Lys His Ser Asn Ser Ser
385                 390                 395                 400
```

```
Ser Gly Ser Leu Thr Asn Thr Pro Glu Arg Gly Ser Asp Glu Asp Ile
                405                 410                 415

Glu Pro Leu Leu Gln Asp Ser Ser Ile Trp Glu Leu Ser Ser Phe Glu
            420                 425                 430

Glu Pro Gly Asn Gln Cys Thr Glu Leu Xaa Thr Arg Gln Lys Val Gly
        435                 440                 445

Phe Cys Ile Arg His Leu
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<210> 141
<211> 2481
<212> DNA
<213> Homo sapiens

<400> 141
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<210> 142
<211> 475
<212> PRT
<213> Homo sapiens

<400> 142
Met Ala Ala Lys Ser Gln Pro Asn Ile Pro Lys Ala Lys Ser Leu Asp
1 5 10 15

Gly Val Thr Asn Asp Arg Thr Ala Ser Gln Gly Gln Trp Gly Arg Ala
20 25 30

Trp Glu Val Asp Trp Phe Ser Leu Ala Ser Val Ile Phe Leu Leu Leu
35 40 45

Phe Ala Pro Phe Ile Val Tyr Tyr Phe Ile Met Ala Cys Asp Gln Tyr
50 55 60

Ser Cys Ala Leu Thr Gly Pro Val Val Asp Ile Val Thr Gly His Ala
65 70 75 80

Arg Leu Ser Asp Ile Trp Ala Lys Thr Pro Pro Ile Thr Arg Lys Ala
85 90 95

Ala Gln Leu Tyr Thr Leu Trp Val Thr Phe Gln Val Leu Leu Tyr Thr
100 105 110

Ser Leu Pro Asp Phe Cys His Lys Phe Leu Pro Gly Tyr Val Gly Gly
115 120 125

Ile Gln Glu Gly Ala Val Thr Pro Ala Gly Val Val Asn Lys Tyr Gln
130 135 140

Ile Asn Gly Leu Gln Ala Trp Leu Leu Thr His Leu Leu Trp Phe Ala
145 150 155 160

Asn Ala His Leu Leu Ser Trp Phe Ser Pro Thr Ile Ile Phe Asp Asn
165 170 175

Trp Ile Pro Leu Leu Trp Cys Ala Asn Ile Leu Gly Tyr Ala Val Ser
180 185 190

Thr Phe Ala Met Val Lys Gly Tyr Phe Phe Pro Thr Ser Ala Arg Asp
195 200 205

Cys Lys Phe Thr Gly Asn Phe Phe Tyr Asn Tyr Met Met Gly Ile Glu
210 215 220

Phe Asn Pro Arg Ile Gly Lys Trp Phe Asp Phe Lys Leu Phe Phe Asn
225 230 235 240

Gly Arg Pro Gly Ile Val Ala Trp Thr Leu Ile Asn Leu Ser Phe Ala
245 250 255

Ala Lys Gln Arg Glu Leu His Ser His Val Thr Asn Ala Met Val Leu
260 265 270

```
Val Asn Val Leu Gln Ala Ile Tyr Val Ile Asp Phe Phe Trp Asn Glu
        275                 280                 285

Thr Trp Tyr Leu Lys Thr Ile Asp Ile Cys His Asp His Phe Gly Trp
    290                 295                 300

Tyr Leu Gly Trp Gly Asp Cys Val Trp Leu Pro Tyr Leu Tyr Thr Leu
305                 310                 315                 320

Gln Gly Leu Tyr Leu Val Tyr His Pro Val Gln Leu Ser Thr Pro His
                325                 330                 335

Ala Val Gly Val Leu Leu Leu Gly Leu Val Gly Tyr Tyr Ile Phe Arg
            340                 345                 350

Val Ala Asn His Gln Lys Asp Leu Phe Arg Arg Thr Asp Gly Arg Cys
        355                 360                 365

Leu Ile Trp Gly Arg Lys Pro Lys Val Ile Glu Cys Ser Tyr Thr Ser
    370                 375                 380

Ala Asp Gly Gln Arg His His Ser Lys Leu Leu Val Ser Gly Phe Trp
385                 390                 395                 400

Gly Val Ala Arg His Phe Asn Tyr Val Gly Asp Leu Met Gly Ser Leu
                405                 410                 415

Ala Tyr Cys Leu Ala Cys Gly Gly Gly His Leu Leu Pro Tyr Phe Tyr
            420                 425                 430

Ile Ile Tyr Met Ala Ile Leu Leu Thr His Arg Cys Leu Arg Asp Glu
        435                 440                 445

His Arg Cys Ala Ser Lys Tyr Gly Arg Asp Trp Glu Arg Tyr Thr Ala
    450                 455                 460

Ala Val Pro Tyr Arg Leu Leu Pro Gly Ile Phe
465                 470                 475


<210> 143
<211> 1518
<212> DNA
<213> Homo sapiens

<400> 143
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ccttggcatt taagaggcat ccatgtgtta gccagccaaa gccccctgaa ggagctggct 660
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gtactgacac ctgaagtctt actaaattcc tgtcctcagg ccatcctttt tctcctgaaa 840
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cacttttggc ttctgagggc cattgctggg ctaggtgcac cgtaactgct tgtgtatctt 1020
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ttcactagaa tatgccaact gccaatcatg ttggactgag ctaatttgtt cctcttttctg 1440
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aaaaaaaaaa aaaaaaaa                                              1518

<210> 144
<211> 55
<212> PRT
<213> Homo sapiens

<400> 144
Met Val Leu Thr His Leu His Phe Leu Ser Ser Gln Arg Val Gln Ser
  1               5                  10                  15

Arg Gly Arg Ala Cys Ile Gly Ile Gln Val Leu Leu Val Leu Leu Trp
             20                  25                  30

Ser Trp Ser Asn Ser Val Ser Trp His Arg Thr Arg Leu Gly Leu His
         35                  40                  45

Cys Ala Val Cys Phe Thr Ala
     50                  55


<210> 145
<211> 2097
<212> DNA
<213> Homo sapiens

<400> 145
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cagtcctccc acctcagctt cccaaagctc tgggattata ggcatgagcc actgtacctg 180
tccacctgag aaattttcta agcctggatt cagtcttatg aaatataata ctttgaaatg 240
cacaataact ttgaaaatga aactcattgc ttttcatttc accaggagtt actaactata 300
ataagcttta gagcaaattc tccttagata tgatttttgt tattattaga aacacatact 360
atcttgataa ctaaattttg ccaatcattc ttcttgacta gtggtcttta tatatacata 420
catatatata tatatataca tatatatata tatgaggaat tttccataag tgacttgaaa 480
aatacagaat gcactccatg gtaggtctgt tcagtgttat caggaatact gtttctcatc 540
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caacaaagga agttctctca ttcaactctt cgtcattttg ggttgggaaa acttagcttg 660
gagcccaaga ttattgagga gttcaaatat gtgaaagcag aaatgcaaaa gcacggagaa 720
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tgctttggcc agcgctttga ttacactaat agtgagttca agaaaatgct tggttttatg 840
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gaaaaggttc atgaagaaat tgaaagagtc attggcgcca accgagctcc ttccctcaca 1260
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gcttccaccg atgggccaat cttctcattt cttagtgcct cagacatccc atatgtaaaa 2040
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<210> 146
<211> 398
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (379)

<400> 146
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Ala Gly Val Val Phe Ala His Tyr Gly Pro Val Trp Arg Gln Gln Arg
             20                  25                  30

Lys Phe Ser His Ser Thr Leu Arg His Phe Gly Leu Gly Lys Leu Ser
         35                  40                  45

Leu Glu Pro Lys Ile Ile Glu Glu Phe Lys Tyr Val Lys Ala Glu Met
     50                  55                  60

Gln Lys His Gly Glu Asp Pro Phe Cys Pro Phe Ser Ile Ile Ser Asn
 65                  70                  75                  80

Ala Val Ser Asn Ile Ile Cys Ser Leu Cys Phe Gly Gln Arg Phe Asp
                 85                  90                  95

Tyr Thr Asn Ser Glu Phe Lys Lys Met Leu Gly Phe Met Ser Arg Gly
            100                 105                 110

Leu Glu Ile Cys Leu Asn Ser Gln Val Leu Leu Val Asn Ile Cys Pro
        115                 120                 125

Trp Leu Tyr Tyr Leu Pro Phe Gly Pro Phe Lys Glu Leu Arg Gln Ile
    130                 135                 140

Glu Lys Asp Ile Thr Ser Phe Leu Lys Lys Ile Ile Lys Asp His Gln
145                 150                 155                 160

Glu Ser Leu Asp Arg Glu Asn Pro Gln Asp Phe Ile Asp Met Tyr Leu
                165                 170                 175

Leu His Met Glu Glu Glu Arg Lys Asn Asn Ser Asn Ser Ser Phe Asp
            180                 185                 190
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Glu Glu Tyr Leu Phe Tyr Ile Ile Gly Asp Leu Phe Ile Ala Gly Thr
        195                 200                 205

Asp Thr Thr Thr Asn Ser Leu Leu Trp Cys Leu Leu Tyr Met Ser Leu
    210                 215                 220

Asn Pro Asp Val Gln Glu Lys Val His Glu Glu Ile Glu Arg Val Ile
225                 230                 235                 240

Gly Ala Asn Arg Ala Pro Ser Leu Thr Asp Lys Ala Gln Met Pro Tyr
                245                 250                 255

Thr Glu Ala Thr Ile Met Glu Val Gln Arg Leu Thr Val Val Val Pro
            260                 265                 270

Leu Ala Ile Pro His Met Thr Ser Glu Asn Thr Val Leu Gln Gly Tyr
        275                 280                 285

Thr Ile Pro Lys Gly Thr Leu Ile Leu Pro Asn Leu Trp Ser Val His
    290                 295                 300

Arg Asp Pro Ala Ile Trp Glu Lys Pro Glu Asp Phe Tyr Pro Asn Arg
305                 310                 315                 320

Phe Leu Asp Asp Gln Gly Gln Leu Ile Lys Lys Glu Thr Phe Ile Pro
                325                 330                 335

Phe Gly Ile Gly Lys Arg Val Cys Met Gly Glu Gln Leu Ala Lys Met
            340                 345                 350

Glu Leu Phe Leu Met Phe Val Ser Leu Met Gln Ser Phe Ala Phe Ala
        355                 360                 365

Leu Pro Glu Asp Ser Lys Lys Pro Leu Leu Xaa Gly Arg Phe Gly Leu
    370                 375                 380

Thr Leu Ala Pro His Pro Phe Asn Ile Thr Ile Ser Arg Arg
385                 390                 395
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<210> 147
<211> 2504
<212> DNA
<213> Homo sapiens

<400> 147
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actctgtttt gcaagatgcc aaaccccagt tctgatgggg ctccaacagc caggctgtgg 180
tcctttgacg ttcctcacct gttgccaacc tatcccgtag tgaactgaaa ccccaatgaa 240
gacagaactg tgcctgggga gatgcaatga ggtgagggct gaactcatcc ttttatattt 300
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tctattatag attgacttac agcagggaga gaatctcttt agctcattcc taatggggtt 480
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gttttgaccta tatatatata tatatatata tatgcatata tatttcataa tatttggaag 780
gtttttgatg ctagaaaaat ggaaacaaga gaaccttcaa aaatggtact tagatgggaa 840

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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa                  2504

<210> 148
<211> 66
<212> PRT
<213> Homo sapiens

<400> 148
Met Glu Arg Glu Pro Leu Cys Leu Trp Gln Tyr His Leu Glu Arg Ser
  1               5                  10                  15

Thr Ser Tyr Leu Gln Ala Phe Ser Pro Gly Leu Leu Ile Val Ser Val
             20                  25                  30

Pro Pro Phe Leu Ser Ser Leu Gln Met Pro Ser Arg Gly Tyr Leu Ile
         35                  40                  45

Leu Val Leu Phe Leu Cys Gly Phe Leu Gly Ser Arg Asp Leu Glu Phe
     50                  55                  60

Pro Phe
 65


<210> 149
<211> 928
<212> DNA
<213> Homo sapiens

<400> 149
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ctgggcatgg tggcatgtgc ttgtggccct agctacttgg gaggctgcgg tggaaggatc 120
acttgggccc aggcattcca gcttatgatt tcagtgagtt atgatcacaa cactgaattc 180
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caacctaatg gatggagaga gactatgtct ctaaaaataa aaaataaaga gattaggaac 240
tgtctgcact aagatgactt tactattcca agaaatcctt gcctaagaaa gtaaagttga 300
aattactttt ttgtcctgga aactttccga tctatgtatc tgtactcata cagcctcatc 360
gggctaaaca gccttctttt cagaacagta gatcactcaa ctgggttttc aagtgactgt 420
ttacctttca aggctggctt tataggtctt gcctcactgt atccagcaat ccaaacttta 480
ccctatccca gtcaggactg cacacctcat gttgaaagac atacctttaga accagactcc 540
ccaaagctta caaatatccc acccttgact ccctttttctg aggctactaa gattatgtga 600
agacagtcat cttccttact gcagtgagca ataaacttgg tttttgttca tcagtaaacc 660
attttggtgg tttctggagg agccagcagt tggcaatggt tataaatcta aatctaaaag 720
ccatttataa aagactgatg aatctagtaa cataaaaata aactgcatga taaatatcat 780
aaacaaagtc aaaagacaac tgacaaccag gttaaaaaca tgcttttcaac atatattaca 840
ggaaaagggc taatattcct aatatgtaaa taattgttag aaattaagag atcaagcacc 900
aagcacccat tagaaaaaaa aaaaaaaa                                    928

<210> 150
<211> 88
<212> PRT
<213> Homo sapiens

<400> 150
Met Tyr Leu Tyr Ser Tyr Ser Leu Ile Gly Leu Asn Ser Leu Leu Phe
  1               5                  10                  15

Arg Thr Val Asp His Ser Thr Gly Phe Ser Ser Asp Cys Leu Pro Phe
             20                  25                  30

Lys Ala Gly Phe Ile Gly Leu Ala Ser Leu Tyr Pro Ala Ile Gln Thr
         35                  40                  45

Leu Pro Tyr Pro Ser Gln Asp Cys Thr Pro His Val Glu Arg His Thr
     50                  55                  60

Leu Glu Pro Asp Ser Pro Lys Leu Thr Asn Ile Pro Pro Leu Thr Pro
 65                  70                  75                  80

Phe Ser Glu Ala Thr Lys Ile Met
                 85


<210> 151
<211> 1343
<212> DNA
<213> Homo sapiens

<400> 151
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ggggagtgtt tgcgtttctt ctccgtttgg cagtgaaaca catctcagaa aggtggagct 180
gatcagaata atgttcagca tcaacccctt ggagaacctg aaggtgtaca tcagcagtcg 240
gcctcccctg gtggtcttca tgatcagcgt aagcgccatg gccatagctt tcctgacccct 300
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tttttctgcta cggttcaatg atttggactt gtgtgtatca gagaatgaaa ccctcaagca 420
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cacccagtcc ccccaggccc tggaggactc gggcccggtg aatatctcag tctcaatcac 540
cctaaccctg gacccactga aacccttcgg agggtattcc cgcaacgtca cccatctgta 600
ctcaaccatc ttagggcatc agattggact ttcaggcagg gaagcccacg aggagataaa 660
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cactgtacag ccaccgcact gtgttcctga cacgtacagc aacgccacgc tctggtacaa 840
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aaaaaaaaaa aaaaaaaaaa aaa                                        1343

<210> 152
<211> 314
<212> PRT
<213> Homo sapiens

<400> 152
Met Phe Ser Ile Asn Pro Leu Glu Asn Leu Lys Val Tyr Ile Ser Ser
  1               5                  10                  15

Arg Pro Pro Leu Val Val Phe Met Ile Ser Val Ser Ala Met Ala Ile
             20                  25                  30

Ala Phe Leu Thr Leu Gly Tyr Phe Phe Lys Ile Lys Glu Ile Lys Ser
         35                  40                  45

Pro Glu Met Ala Glu Asp Trp Asn Thr Phe Leu Leu Arg Phe Asn Asp
     50                  55                  60

Leu Asp Leu Cys Val Ser Glu Asn Glu Thr Leu Lys His Leu Thr Asn
 65                  70                  75                  80

Asp Thr Thr Thr Pro Glu Ser Thr Met Thr Ser Gly Gln Ala Arg Ala
                 85                  90                  95

Ser Thr Gln Ser Pro Gln Ala Leu Glu Asp Ser Gly Pro Val Asn Ile
            100                 105                 110

Ser Val Ser Ile Thr Leu Thr Leu Asp Pro Leu Lys Pro Phe Gly Gly
        115                 120                 125

Tyr Ser Arg Asn Val Thr His Leu Tyr Ser Thr Ile Leu Gly His Gln
    130                 135                 140

Ile Gly Leu Ser Gly Arg Glu Ala His Glu Glu Ile Asn Ile Thr Phe
145                 150                 155                 160

Thr Leu Pro Thr Ala Trp Ser Ser Asp Asp Cys Ala Leu His Gly His
                165                 170                 175

Cys Glu Gln Val Val Phe Thr Ala Cys Met Thr Leu Thr Ala Ser Pro
            180                 185                 190

Gly Val Phe Pro Val Thr Val Gln Pro Pro His Cys Val Pro Asp Thr
        195                 200                 205

Tyr Ser Asn Ala Thr Leu Trp Tyr Lys Ile Phe Thr Thr Ala Arg Asp
    210                 215                 220

Ala Asn Thr Lys Tyr Ala Gln Asp Tyr Asn Pro Phe Trp Cys Tyr Lys
225                 230                 235                 240
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Gly Ala Ile Gly Lys Val Tyr His Ala Leu Asn Pro Lys Leu Thr Val
                245                 250                 255

Ile Val Pro Asp Asp Asp Arg Ser Leu Ile Asn Leu His Leu Met His
            260                 265                 270

Thr Ser Tyr Phe Leu Phe Val Met Val Ile Thr Met Phe Cys Tyr Ala
        275                 280                 285

Val Ile Lys Gly Arg Pro Ser Lys Leu Arg Gln Ser Asn Pro Glu Phe
    290                 295                 300

Cys Pro Glu Lys Val Ala Leu Ala Glu Ala
305                 310
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<210> 153
<211> 3343
<212> DNA
<213> Homo sapiens

<400> 153

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gctctcctca ggggagcggg gaggcagctg ctggccggcg atggggacgg agtgggggcg 240
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aagagcatta gaagaggtgg ttggatggag ccaggctcag gctgcctctt cgttttagca 2220
acaagaagac tgctcttgac tgataacagc tctgtcaata ttttgatgcc acaataaact 2280
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```
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<210> 154
<211> 389
<212> PRT
<213> Homo sapiens

<400> 154

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  1               5                  10                  15

Arg Ala Lys Tyr Ser Phe Ile Pro Asp Pro Asp Phe Thr Tyr Leu Gly
            20                  25                  30

Gly Ile Leu Asn Pro Ile Pro Asp Cys Gln Phe Glu Leu Ser Gly Ala
        35                  40                  45

Asp Gly Ile Val Arg Ser Ser Gln Val Glu Gln Glu Glu Lys Thr Lys
    50                  55                  60

Pro Gly Gln Ala Val Asp Cys Ile Trp Thr Ile Lys Ala Thr Pro Lys
65                  70                  75                  80

Ala Lys Ile Tyr Leu Arg Phe Leu Asp Tyr Gln Met Glu His Ser Asn
                85                  90                  95

Glu Cys Lys Arg Asn Phe Val Ala Val Tyr Asp Gly Ser Ser Ser Ile
            100                 105                 110

Glu Asn Leu Lys Ala Lys Phe Cys Ser Thr Val Ala Asn Asp Val Met
        115                 120                 125

Leu Lys Thr Gly Ile Gly Val Ile Arg Met Trp Ala Asp Glu Gly Ser
    130                 135                 140

Arg Leu Ser Arg Phe Arg Met Leu Phe Thr Ser Phe Val Glu Pro Pro
145                 150                 155                 160

Cys Thr Ser Ser Thr Phe Phe Cys His Ser Asn Met Cys Ile Asn Asn
                165                 170                 175

Ser Leu Val Cys Asn Gly Val Gln Asn Cys Ala Tyr Pro Trp Asp Glu
            180                 185                 190
```

```
Asn His Cys Lys Glu Lys Lys Lys Ala Gly Val Phe Glu Gln Ile Thr
        195                 200                 205

Lys Thr His Gly Thr Ile Ile Gly Ile Thr Ser Gly Ile Val Leu Val
    210                 215                 220

Leu Leu Ile Ile Ser Ile Leu Val Gln Val Lys Gln Pro Arg Lys Lys
225                 230                 235                 240

Val Met Ala Cys Lys Thr Ala Phe Asn Lys Thr Gly Phe Gln Glu Val
                245                 250                 255

Phe Asp Pro Pro His Tyr Glu Leu Phe Ser Leu Arg Asp Lys Glu Ile
            260                 265                 270

Ser Ala Asp Leu Ala Asp Leu Ser Glu Glu Leu Asp Asn Tyr Gln Lys
        275                 280                 285

Met Arg Arg Ser Ser Thr Ala Ser Arg Cys Ile His Asp His His Cys
    290                 295                 300

Gly Ser Gln Ala Ser Ser Val Lys Gln Ser Arg Thr Asn Leu Ser Ser
305                 310                 315                 320

Met Glu Leu Pro Phe Arg Asn Asp Phe Ala Gln Pro Gln Pro Met Lys
                325                 330                 335

Thr Phe Asn Ser Thr Phe Lys Lys Ser Ser Tyr Thr Phe Lys Gln Gly
            340                 345                 350

His Glu Cys Pro Glu Gln Ala Leu Glu Asp Arg Val Met Glu Glu Ile
        355                 360                 365

Pro Cys Glu Ile Tyr Val Arg Gly Arg Glu Asp Ser Ala Gln Ala Ser
    370                 375                 380

Ile Ser Ile Asp Phe
385
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<210> 155
<211> 2991
<212> DNA
<213> Homo sapiens

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<222> (1270)

<220>
<221> unsure
<222> (2613)

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taacttcatt gagtggcgtg gcacagaaga attacttcaa cattttggat aaaatcgttc 180
aaaaggttct ttgattaagc gaggattgtg gtggtcatca agaacctttt cccgattgaa 240
ttctagacct gcggggtagt tgcctttggc caaaccaagg acatcatcag gcagatcctg 300

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ccaaacagtg ctgtctggtg gcccttctat cacttctatg caggttgagg gcaagaactc 420
catcatcctg accttcagac agctgatggc agaagaaggg ccttggggcc tcatgaaagg 480
cctctcggcc agaatcatct cagccacacc ttccaccatt gtcattgtgg tgggctatga 540
gagcctcaag aaactcagcc tccgacctga gctggtggac tcgagacact ggtaaccagt 600
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<210> 156
<211> 95
<212> PRT
<213> Homo sapiens

<400> 156

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Met Asp Phe Ala Ala Ser Ile Glu Ala Met Trp Leu His Cys Leu Pro
  1               5                  10                  15

Ile Ser Gln Thr Val Leu Ser Gly Gly Pro Ser Ile Thr Ser Met Gln
            20                  25                  30

Val Glu Gly Lys Asn Ser Ile Ile Leu Thr Phe Arg Gln Leu Met Ala
        35                  40                  45
```

```
Glu Glu Gly Pro Trp Gly Leu Met Lys Gly Leu Ser Ala Arg Ile Ile
     50                  55                  60

Ser Ala Thr Pro Ser Thr Ile Val Ile Val Val Gly Tyr Glu Ser Leu
 65                  70                  75                  80

Lys Lys Leu Ser Leu Arg Pro Glu Leu Val Asp Ser Arg His Trp
                 85                  90                  95


<210> 157
<211> 2293
<212> DNA
<213> Homo sapiens

<400> 157
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cactgtggtg ggcactgcag tgggcctctc ctcccacccc cgagctctca gccactccct 240
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<210> 158
<211> 586
<212> PRT
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<213> Homo sapiens

<220>
<221> UNSURE
<222> (286)

<400> 158

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Met Pro Leu Leu Lys Met Pro Pro Pro Phe Ser Gly Cys Ser His Pro
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Cys Ser Gly His Cys Gly Gly His Cys Ser Gly Pro Leu Leu Pro Pro
            20                  25                  30

Pro Ser Ser Gln Pro Leu Pro Ser Thr His Arg Asp Pro Gly Cys Lys
        35                  40                  45

Gly His Lys Phe Ala His Ser Gly Leu Ala Cys Gln Leu Pro Gln Pro
    50                  55                  60

Cys Glu Ala Asp Glu Gly Leu Gly Glu Glu Glu Asp Ser Ser Ser Glu
65                  70                  75                  80

Arg Ser Ser Cys Thr Ser Ser Ser Thr His Gln Arg Asp Gly Lys Phe
                85                  90                  95

Cys Asp Cys Cys Tyr Cys Glu Phe Phe Gly His Asn Ala Pro Pro Ala
            100                 105                 110

Ala Pro Thr Ser Arg Asn Tyr Thr Glu Ile Arg Glu Lys Leu Arg Ser
        115                 120                 125

Arg Leu Thr Arg Arg Lys Glu Glu Leu Pro Met Lys Gly Gly Thr Leu
    130                 135                 140

Gly Gly Ile Pro Gly Glu Pro Ala Val Asp His Arg Asp Val Asp Glu
145                 150                 155                 160

Leu Leu Glu Phe Ile Asn Ser Thr Glu Pro Lys Val Pro Asn Ser Ala
                165                 170                 175

Arg Ala Ala Lys Arg Ala Arg His Lys Leu Lys Lys Lys Glu Lys Glu
            180                 185                 190

Lys Ala Gln Leu Ala Ala Glu Ala Leu Lys Gln Ala Asn Arg Val Ser
        195                 200                 205

Gly Ser Arg Glu Pro Arg Pro Ala Arg Glu Arg Leu Leu Glu Trp Pro
    210                 215                 220

Asp Arg Glu Leu Asp Arg Val Asn Ser Phe Leu Ser Ser Arg Leu Gln
225                 230                 235                 240

Glu Ile Lys Asn Thr Val Lys Asp Ser Ile Arg Ala Ser Phe Ser Val
                245                 250                 255

Cys Glu Leu Ser Met Asp Ser Asn Gly Phe Ser Lys Glu Gly Ala Ala
            260                 265                 270

Glu Pro Glu Pro Gln Ser Leu Pro Pro Ser Asn Leu Ser Xaa Ser Ser
        275                 280                 285
```

```
Glu Gln Gln Pro Asp Ile Asn Leu Asp Leu Ser Pro Leu Thr Leu Gly
    290                 295                 300

Ser Pro Gln Asn His Thr Leu Gln Ala Pro Gly Glu Pro Ala Pro Pro
305                 310                 315                 320

Trp Ala Glu Met Arg Gly Pro His Pro Pro Trp Thr Glu Val Arg Gly
                325                 330                 335

Pro Pro Pro Gly Ile Val Pro Glu Asn Gly Leu Val Arg Arg Leu Asn
            340                 345                 350

Thr Val Pro Asn Leu Ser Arg Val Ile Trp Val Lys Thr Pro Lys Pro
        355                 360                 365

Gly Tyr Pro Ser Ser Glu Glu Pro Ser Ser Lys Glu Val Pro Ser Cys
    370                 375                 380

Lys Gln Glu Leu Pro Glu Pro Val Ser Ser Gly Gly Lys Pro Gln Lys
385                 390                 395                 400

Gly Lys Arg Gln Gly Ser Gln Ala Lys Lys Ser Glu Ala Ser Pro Ala
                405                 410                 415

Pro Arg Pro Pro Ala Ser Leu Glu Val Pro Ser Ala Lys Gly Gln Val
            420                 425                 430

Ala Gly Pro Lys Gln Pro Gly Arg Val Leu Glu Leu Pro Lys Val Gly
        435                 440                 445

Ser Cys Ala Glu Ala Gly Glu Gly Ser Arg Gly Ser Arg Pro Gly Pro
    450                 455                 460

Gly Trp Ala Gly Ser Pro Lys Thr Glu Lys Glu Lys Gly Ser Ser Trp
465                 470                 475                 480

Arg Asn Trp Pro Gly Glu Ala Lys Ala Arg Pro Gln Glu Gln Glu Ser
                485                 490                 495

Val Gln Pro Pro Gly Pro Ala Arg Pro Gln Ser Leu Pro Gln Gly Lys
            500                 505                 510

Gly Arg Ser Arg Arg Ser Arg Asn Lys Gln Glu Lys Pro Ala Ser Ser
        515                 520                 525

Leu Asp Asp Val Phe Leu Pro Lys Asp Met Asp Gly Val Glu Met Asp
    530                 535                 540

Glu Thr Asp Arg Glu Val Glu Tyr Phe Lys Arg Phe Cys Leu Asp Ser
545                 550                 555                 560

Ala Lys Gln Thr Arg Gln Lys Val Ala Val Asn Trp Thr Asn Phe Ser
                565                 570                 575

Leu Lys Lys Thr Thr Pro Ser Thr Ala Gln
            580                 585
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<210> 159

<211> 1704
<212> DNA
<213> Homo sapiens

<400> 159
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aacccgtacg tttccgtggg caagtcgtgt gtactcctcg ccatggctca gctccaaaca 180
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gagaagtata ctgcacccca gccagagcaa tgcatgttcc atgatgactg gatcagttca 480
attaaagggg cagaggaatg gatcttgact ggttctttatg ataagacttc tcggatctgg 540
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tcttctttaa aaaaaaaaaa aaaa 1704

<210> 160
<211> 423
<212> PRT
<213> Homo sapiens

<400> 160
Met Ala Gln Leu Gln Thr Arg Phe Tyr Thr Asp Asn Lys Lys Tyr Ala
  1   5   10   15

Val Asp Asp Val Pro Phe Ser Ile Pro Ala Ala Ser Glu Ile Ala Asp
             20   25   30

Leu Ser Asn Ile Ile Asn Lys Leu Leu Lys Asp Lys Asn Glu Phe His
         35   40   45

Lys His Val Glu Phe Asp Phe Leu Ile Lys Gly Gln Phe Leu Arg Met
     50   55   60

Pro Leu Asp Lys His Met Glu Met Glu Asn Ile Ser Ser Glu Glu Val
 65   70   75   80

Val Glu Ile Glu Tyr Val Glu Lys Tyr Thr Ala Pro Gln Pro Glu Gln
                 85   90   95

Cys Met Phe His Asp Asp Trp Ile Ser Ser Ile Lys Gly Ala Glu Glu

```
            100                 105                 110

Trp Ile Leu Thr Gly Ser Tyr Asp Lys Thr Ser Arg Ile Trp Ser Leu
        115                 120                 125

Glu Gly Lys Ser Ile Met Thr Ile Val Gly His Thr Asp Val Val Lys
    130                 135                 140

Asp Val Ala Trp Val Lys Lys Asp Ser Leu Ser Cys Leu Leu Leu Ser
145                 150                 155                 160

Ala Ser Met Asp Gln Thr Ile Leu Leu Trp Glu Trp Asn Val Glu Arg
                165                 170                 175

Asn Lys Val Lys Ala Leu His Cys Cys Arg Gly His Ala Gly Ser Val
            180                 185                 190

Asp Ser Ile Ala Val Asp Gly Ser Gly Thr Lys Phe Cys Ser Gly Ser
        195                 200                 205

Trp Asp Lys Met Leu Lys Ile Trp Ser Thr Val Pro Thr Asp Glu Glu
    210                 215                 220

Asp Glu Met Glu Glu Ser Thr Asn Arg Pro Arg Lys Lys Gln Lys Thr
225                 230                 235                 240

Glu Gln Leu Gly Leu Thr Arg Thr Pro Ile Val Thr Leu Ser Gly His
                245                 250                 255

Met Glu Ala Val Ser Ser Val Leu Trp Ser Asp Ala Glu Glu Ile Cys
            260                 265                 270

Ser Ala Ser Trp Asp His Thr Ile Arg Val Trp Asp Val Glu Ser Gly
        275                 280                 285

Ser Leu Lys Ser Thr Leu Thr Gly Asn Lys Val Phe Asn Cys Ile Ser
    290                 295                 300

Tyr Ser Pro Leu Cys Lys Arg Leu Ala Ser Gly Ser Thr Asp Arg His
305                 310                 315                 320

Ile Arg Leu Trp Asp Pro Arg Thr Lys Asp Gly Ser Leu Val Ser Leu
                325                 330                 335

Ser Leu Thr Ser His Thr Gly Trp Val Thr Ser Val Lys Trp Ser Pro
            340                 345                 350

Thr His Glu Gln Gln Leu Ile Ser Gly Ser Leu Asp Asn Ile Val Lys
        355                 360                 365

Leu Trp Asp Thr Arg Ser Cys Lys Ala Pro Leu Tyr Asp Leu Ala Ala
    370                 375                 380

His Glu Asp Lys Val Leu Ser Val Asp Trp Thr Asp Thr Gly Leu Leu
385                 390                 395                 400

Leu Ser Gly Gly Ala Asp Asn Lys Leu Tyr Ser Tyr Arg Tyr Ser Pro
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Thr Thr Ser His Val Gly Ala
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420

<210> 161
<211> 2302
<212> DNA
<213> Homo sapiens

<400> 161
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ttaaaaaaaa aaaaaaaaaa aa 2302

<210> 162
<211> 94
<212> PRT
<213> Homo sapiens

<400> 162
Met Pro Glu Cys Ile Phe Val Leu Leu Gly Pro Trp Asn Arg Tyr Arg
1 5 10 15

Cys Phe Leu Lys Asp Glu Arg Asn Ala Met Gly Ala Leu His Ala Arg
20 25 30

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Leu Gln Thr Tyr Gln Glu Cys Ile Ile Val Ser Leu Phe Pro Asn Lys
         35                  40                  45

Glu Met Arg Val Thr Ser Phe Gly Leu Leu Thr Leu Met Gly Val Ala
     50                  55                  60

Cys Leu Leu Leu Leu Ile Ile Val Ser Cys Ser Asp Met Ile His Ser
 65                  70                  75                  80

Pro Ala Phe Thr Ala Phe His Leu Met Ile Leu Asp Arg Phe
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<210> 163
<211> 1538
<212> DNA
<213> Homo sapiens

<400> 163

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<210> 164
<211> 415
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (20)

<220>
<221> UNSURE
<222> (65)

<400> 164
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Ser Pro Asp Xaa Lys Tyr Leu Ala Ser Cys Val Gln Tyr Arg Leu Val
20 25 30

Val Arg Asp Val Asn Thr Leu Gln Ile Leu Gln Leu Tyr Thr Cys Leu
35 40 45

Asp Gln Ile Gln His Ile Glu Trp Ser Ala Asp Ser Leu Phe Ile Leu
50 55 60

Xaa Ala Met Tyr Lys Arg Gly Leu Val Gln Val Trp Ser Leu Glu Gln
65 70 75 80

Pro Glu Trp His Cys Lys Ile Asp Glu Gly Ser Ala Gly Leu Val Ala
85 90 95

Ser Cys Trp Ser Pro Asp Gly Arg His Ile Leu Asn Thr Thr Glu Phe
100 105 110

His Leu Arg Ile Thr Val Trp Ser Leu Cys Thr Lys Ser Val Ser Tyr
115 120 125

Ile Lys Tyr Pro Lys Ala Cys Leu Gln Gly Ile Thr Phe Thr Arg Asp
130 135 140

Gly Arg Tyr Met Ala Leu Ala Glu Arg Arg Asp Cys Lys Asp Tyr Val
145 150 155 160

Ser Ile Phe Val Cys Ser Asp Trp Gln Leu Leu Arg His Phe Asp Thr
165 170 175

Asp Thr Gln Asp Leu Thr Gly Ile Glu Trp Ala Pro Asn Gly Cys Val
180 185 190

Leu Ala Val Trp Asp Thr Cys Leu Glu Val Arg Ile Leu Asn His Val
195 200 205

Thr Trp Lys Met Ile Thr Glu Phe Gly His Pro Ala Ala Ile Asn Asp
210 215 220

Pro Lys Ile Val Val Tyr Lys Glu Ala Glu Lys Ser Pro Gln Leu Gly
225 230 235 240

Leu Gly Cys Leu Ser Phe Pro Pro Pro Arg Ala Gly Ala Gly Pro Leu
245 250 255

Pro Ser Ser Glu Ser Lys Tyr Glu Ile Ala Ser Val Pro Val Ser Leu
260 265 270

Gln Thr Leu Lys Pro Val Thr Asp Arg Ala Asn Pro Lys Met Gly Ile
275 280 285

Gly Met Leu Ala Phe Ser Pro Asp Ser Tyr Phe Leu Ala Thr Arg Asn
290 295 300

Asp Asn Ile Pro Asn Ala Val Trp Val Trp Asp Ile Gln Lys Leu Arg
305 310 315 320

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Leu Phe Ala Val Leu Glu Gln Leu Ser Pro Val Arg Ala Phe Gln Trp
                325                 330                 335

Asp Pro Gln Gln Pro Arg Leu Ala Ile Cys Thr Gly Gly Ser Arg Leu
            340                 345                 350

Tyr Leu Trp Ser Pro Ala Gly Cys Met Ser Val Gln Val Pro Gly Glu
        355                 360                 365

Gly Asp Phe Ala Val Leu Ser Leu Cys Trp His Leu Ser Gly Asp Ser
    370                 375                 380

Met Ala Leu Leu Ser Lys Asp His Phe Cys Leu Cys Phe Leu Glu Thr
385                 390                 395                 400

Glu Ala Val Val Gly Thr Ala Cys Arg Gln Leu Gly Gly His Thr
                405                 410                 415
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<210> 165
<211> 3178
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1653)

<220>
<221> unsure
<222> (1767)

<400> 165

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<210> 166
<211> 67
<212> PRT
<213> Homo sapiens

<400> 166
Met Ile Asn Thr Phe Thr Tyr Met Val Val Cys Leu Ser Glu Leu Phe
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Ser Pro Ile Tyr Ser Pro Ser Val Tyr Gly Ser Val His Phe Cys His
            20                  25                  30

Thr Pro Gly Asn Pro Val Ile Leu Phe Leu Asn Ile Leu Leu Met Asp
        35                  40                  45

Leu Cys Ser Cys Leu Asn Val Phe Asn Phe Gln Gln Asn Glu Pro His
    50                  55                  60

Ser Leu Phe
 65


<210> 167
<211> 2401
<212> DNA
<213> Homo sapiens

<400> 167
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tgtcattagg ctaataggac agcacttgaa tggcttaggg ctcaaccaga ctgttgatct 180
cctcatgcaa gagtcaggat gtcgtttaga acatcccttct gctaccaaat tccgaaatca 240
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atacctggag gatggcaagg tcctggaggc acttcaagtt ctacgctgtg aattgacgcc 420
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<210> 168
<211> 498
<212> PRT
<213> Homo sapiens

<400> 168

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Met Gln Glu Ser Gly Cys Arg Leu Glu His Pro Ser Ala Thr Lys Phe
  1               5                  10                  15

Arg Asn His Val Met Glu Gly Asp Trp Asp Lys Ala Glu Asn Asp Leu
             20                  25                  30

Asn Glu Leu Lys Pro Leu Val His Ser Pro His Ala Ile Val Arg Met
         35                  40                  45

Lys Phe Leu Leu Leu Gln Gln Lys Tyr Leu Glu Tyr Leu Glu Asp Gly
     50                  55                  60

Lys Val Leu Glu Ala Leu Gln Val Leu Arg Cys Glu Leu Thr Pro Leu
 65                  70                  75                  80

Lys Tyr Asn Thr Glu Arg Ile His Val Leu Ser Gly Tyr Leu Met Cys
```

85 90 95

Ser His Ala Glu Asp Leu Arg Ala Lys Ala Glu Trp Glu Gly Lys Gly
100 105 110

Thr Ala Ser Arg Ser Lys Leu Leu Asp Lys Leu Gln Thr Tyr Leu Pro
115 120 125

Pro Ser Val Met Leu Pro Pro Arg Arg Leu Gln Thr Leu Leu Arg Gln
130 135 140

Ala Val Glu Leu Gln Arg Asp Arg Cys Leu Tyr His Asn Thr Lys Leu
145 150 155 160

Asp Asn Asn Leu Asp Ser Val Ser Leu Leu Ile Asp His Val Cys Ser
165 170 175

Arg Arg Gln Phe Pro Cys Tyr Thr Gln Gln Ile Leu Thr Glu His Cys
180 185 190

Asn Glu Val Trp Phe Cys Lys Phe Ser Asn Asp Gly Thr Lys Leu Ala
195 200 205

Thr Gly Ser Lys Asp Thr Thr Val Ile Ile Trp Gln Val Asp Pro Asp
210 215 220

Thr His Leu Leu Lys Leu Leu Lys Thr Leu Glu Gly His Ala Tyr Gly
225 230 235 240

Val Ser Tyr Ile Ala Trp Ser Pro Asp Asp Asn Tyr Leu Val Ala Cys
245 250 255

Gly Pro Asp Asp Cys Ser Glu Leu Trp Leu Trp Asn Val Gln Thr Gly
260 265 270

Glu Leu Arg Thr Lys Met Ser Gln Ser His Glu Asp Ser Leu Thr Ser
275 280 285

Val Ala Trp Asn Pro Asp Gly Lys Arg Phe Val Thr Gly Gly Gln Arg
290 295 300

Gly Gln Phe Tyr Gln Cys Asp Leu Asp Gly Asn Leu Leu Asp Ser Trp
305 310 315 320

Glu Gly Val Arg Val Gln Cys Leu Trp Cys Leu Ser Asp Gly Lys Thr
325 330 335

Val Leu Ala Ser Asp Thr His Gln Arg Ile Arg Gly Tyr Asn Phe Glu
340 345 350

Asp Leu Thr Asp Arg Asn Ile Val Gln Glu Asp His Pro Ile Met Ser
355 360 365

Phe Thr Ile Ser Lys Asn Gly Arg Leu Ala Leu Leu Asn Val Ala Thr
370 375 380

Gln Gly Val His Leu Trp Asp Leu Gln Asp Arg Val Leu Val Arg Lys
385 390 395 400

Tyr Gln Gly Val Thr Gln Gly Phe Tyr Thr Ile His Ser Cys Phe Gly

```
                405                 410                 415

Gly His Asn Glu Asp Phe Ile Ala Ser Gly Ser Glu Asp His Lys Val
            420                 425                 430

Tyr Ile Trp His Lys Arg Ser Glu Leu Pro Ile Ala Glu Leu Thr Gly
        435                 440                 445

His Thr Arg Thr Val Asn Cys Val Ser Trp Asn Pro Gln Ile Pro Ser
    450                 455                 460

Met Met Ala Ser Ala Ser Asp Asp Gly Thr Val Arg Ile Trp Gly Pro
465                 470                 475                 480

Ala Pro Phe Ile Asp His Gln Asn Ile Glu Glu Glu Cys Ser Ser Met
                485                 490                 495

Asp Ser
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<210> 169
<211> 1110
<212> DNA
<213> Homo sapiens

<400> 169
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cgcggccccg tgcggtgtcc ctgagctcct gctccccgcc gggctgctcc gagcaacggt 120
gcttcggagc tccaaactcg ggctgccggg gcaagtgtct tcatgaaccc agaggatgtc 180
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agcgctacgg gaaaacactt tccttctcaa gttttttttt gtgttcctgg gaattatttt 480
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cctcatagac ttcacccagg aatatattcc aatgcaagtc gagagcgatg tggcgttcca 660
ttctcctgct gcactaaaga tcccgcagaa gatgtcatca acactcagtg tggctatgat 720
gccaggcaaa aaccagaagt tgaccagcag attgtaatct acacgaaagg ctgtgtgccc 780
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ctcactgaca gaattaaaaa aaaaaaaaaa   1110

<210> 170
<211> 193
<212> PRT
<213> Homo sapiens

<400> 170
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Met Ser Gly Lys His Tyr Lys Gly Pro Glu Val Ser Cys Cys Ile Lys
  1               5                  10                  15

Tyr Phe Ile Phe Gly Phe Asn Val Ile Phe Trp Phe Leu Gly Ile Thr
            20                  25                  30

Phe Leu Gly Ile Gly Leu Trp Ala Trp Asn Glu Lys Gly Val Leu Ser
```

```
          35                  40                  45

Asn Ile Ser Ser Ile Thr Asp Leu Gly Gly Phe Asp Pro Val Trp Leu
     50                  55                  60

Phe Leu Val Val Gly Gly Val Met Phe Ile Leu Gly Phe Ala Gly Cys
 65                  70                  75                  80

Ile Gly Ala Leu Arg Glu Asn Thr Phe Leu Leu Lys Phe Phe Ser Val
                 85                  90                  95

Phe Leu Gly Ile Ile Phe Phe Leu Glu Leu Thr Ala Gly Val Leu Ala
            100                 105                 110

Phe Val Phe Lys Asp Trp Ile Lys Asp Gln Leu Tyr Phe Phe Ile Asn
        115                 120                 125

Asn Asn Ile Arg Ala Tyr Arg Asp Asp Ile Asp Leu Gln Asn Leu Ile
    130                 135                 140

Asp Phe Thr Gln Glu Tyr Ile Pro Met Gln Val Glu Ser Asp Val Ala
145                 150                 155                 160

Phe His Ser Pro Ala Ala Leu Lys Ile Pro Gln Lys Met Ser Ser Thr
                165                 170                 175

Leu Ser Val Ala Met Met Pro Gly Lys Asn Gln Lys Leu Thr Ser Arg
            180                 185                 190

Leu
```

<210> 171
<211> 1621
<212> DNA
<213> Homo sapiens

<400> 171
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aaggtctgct aggcagcttc acagcctttt ctttcctctt ctctatcaga ggtctctttg 180
gaagcaataa tgatgactat aacaagaact tatcttgctt tgcaagattc ttccgccgtc 240
agagtttctg atttattttc tggggttcca tgtatgccag ggagaaagag agagcgcgaa 300
agagagagga tgtctctctc agactggcac ctggcggtga agctggctga ccagccactt 360
actccaaagt ctattcttcg gttgccagag acagaactgg gagaatactc gctagggggc 420
tatagtattt catttctgaa gcagcttatt gctggcaaac tccaggagtc tgttccagac 480
cctgagctga ttgatctgat ctactgtggt cggaagctaa aagatgacca gacacttgac 540
ttctatggca ttcaacctgg gtccactgtc catgttctgc gaaagtcctg gcctgaacct 600
gatcagaaac cggaacctgt ggacaaagtg gctgccatga gagagttccg ggtgttgcac 660
actgccctgc acagcagctc ctcttacagg gaggcggtct ttaagatgct cagcaataag 720
gagtctctgg atcagatcat tgtggccacc ccaggcctca gcagtgaccc tattgctctt 780
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tacagtggag ctgctgggcc ccggcccatc acccagagtg agctggccac cgccttggcc 1140
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cgggccctgc aggccaccgg tggggacatc caagcagccc tggagctcat ctttgctgga 1440
ggagccccat gaactccctg cttcccctga accccagca agttgcagag gctactgccc 1500
ttgggaggca ctcatgaagg tgcctccatc tctcccttcc ccaatatacc tgatggtcaa 1560
ctctaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1620
a 1621

<210> 172
<211> 420
<212> PRT
<213> Homo sapiens

<400> 172
Met Met Thr Ile Thr Arg Thr Tyr Leu Ala Leu Gln Asp Ser Ser Ala
1 5 10 15

Val Arg Val Ser Asp Leu Phe Ser Gly Val Pro Cys Met Pro Gly Arg
20 25 30

Lys Arg Glu Arg Glu Arg Glu Arg Met Ser Leu Ser Asp Trp His Leu
35 40 45

Ala Val Lys Leu Ala Asp Gln Pro Leu Thr Pro Lys Ser Ile Leu Arg
50 55 60

Leu Pro Glu Thr Glu Leu Gly Glu Tyr Ser Leu Gly Gly Tyr Ser Ile
65 70 75 80

Ser Phe Leu Lys Gln Leu Ile Ala Gly Lys Leu Gln Glu Ser Val Pro
85 90 95

Asp Pro Glu Leu Ile Asp Leu Ile Tyr Cys Gly Arg Lys Leu Lys Asp
100 105 110

Asp Gln Thr Leu Asp Phe Tyr Gly Ile Gln Pro Gly Ser Thr Val His
115 120 125

Val Leu Arg Lys Ser Trp Pro Glu Pro Asp Gln Lys Pro Glu Pro Val
130 135 140

Asp Lys Val Ala Ala Met Arg Glu Phe Arg Val Leu His Thr Ala Leu
145 150 155 160

His Ser Ser Ser Ser Tyr Arg Glu Ala Val Phe Lys Met Leu Ser Asn
165 170 175

Lys Glu Ser Leu Asp Gln Ile Ile Val Ala Thr Pro Gly Leu Ser Ser
180 185 190

Asp Pro Ile Ala Leu Gly Val Leu Gln Asp Lys Asp Leu Phe Ser Val
195 200 205

Phe Ala Asp Pro Asn Met Leu Asp Thr Leu Val Pro Ala His Pro Ala
210 215 220

Leu Val Asn Ala Ile Val Leu Val Leu His Ser Val Ala Gly Ser Ala
225 230 235 240

Pro Met Pro Gly Thr Asp Ser Ser Ser Arg Ser Met Pro Ser Ser Ser

```
                245                 250                 255

Tyr Arg Asp Met Pro Gly Gly Phe Leu Phe Glu Gly Leu Ser Asp Asp
            260                 265                 270

Glu Asp Asp Phe His Pro Asn Thr Arg Ser Thr Pro Ser Ser Ser Thr
        275                 280                 285

Pro Ser Ser Arg Pro Ala Ser Leu Gly Tyr Ser Gly Ala Ala Gly Pro
    290                 295                 300

Arg Pro Ile Thr Gln Ser Glu Leu Ala Thr Ala Leu Ala Leu Ala Ser
305                 310                 315                 320

Thr Pro Glu Ser Ser Ser His Thr Pro Thr Pro Gly Thr Gln Gly His
                325                 330                 335

Ser Ser Gly Thr Ser Pro Met Ser Ser Gly Val Gln Ser Gly Thr Pro
            340                 345                 350

Ile Thr Asn Asp Leu Phe Ser Gln Ala Leu Gln His Ala Leu Gln Ala
        355                 360                 365

Ser Gly Gln Pro Ser Leu Gln Ser Gln Trp Gln Pro Gln Leu Gln Gln
    370                 375                 380

Leu Arg Asp Met Gly Ile Gln Asp Asp Glu Leu Ser Leu Arg Ala Leu
385                 390                 395                 400

Gln Ala Thr Gly Gly Asp Ile Gln Ala Ala Leu Glu Leu Ile Phe Ala
                405                 410                 415

Gly Gly Ala Pro
            420
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<210> 173
<211> 1534
<212> DNA
<213> Homo sapiens

<400> 173

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gacccatcct ttctcgtcgg aataccgtct ggctgtgcta cgaagtgaaa acaaagggtc 180
cctcaaggcc ccctttggac gcaaagatct ttcgaggcca ggtgtattcc gaacttaagt 240
accaccccaga gatgagattc ttccactggt tcagcaagtg gaggaagctg catcgtgacc 300
aggagtatga ggtcacctgg tacatatcct ggagcccctg cacaaagtgt acaagggata 360
tggccacgtt cctggccgag gacccgaagg ttaccctgac catcttcgtt gcccgcctct 420
actacttctg ggacccagat taccaggagg cgcttcgcag cctgtgtcag aaaagagacg 480
gtccgcgtgc caccatgaag atcatgaatt atgacgaatt tcagcactgt tggagcaagt 540
tcgtgtacag ccaaagagag ctatttgagc cttggaataa tctgcctaaa tattatatat 600
tactgcacat catgctgggg gagattctca gacactcgat ggatccaccc acatttcactt 660
tcaactttaa caatgaacct tgggtcagag gacggcatga gacttacctg tgttatgagg 720
tggagcgcat gcacaatgac acctgggtcc tgctgaacca gcgcagggggc tttctatgca 780
accaggctcc acataaacac ggtttccttg aaggccgcca tgcagagctg tgcttcctgg 840
acgtgattcc cttttggaag ctggacctgg accaggacta cagggttacc tgctttcacct 900
cctggagccc ctgcttcagc tgtgcccagg aaatggctaa attcatttca aaaaacaaac 960
acgtgagcct gtgcatcttc actgcccgca tctatgatga tcaaggaaga tgtcaggagg 1020
ggctgcgcac cctggccgag gctggggcca aaatttcaat aatgacatac agtgaattta 1080
```

```
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actgaaggat gggcctcagt ctctaaggaa ggcagagacc tgggttgagc ctcagaataa 1260
aagatcttct tccaagaaat gcaaacaggc tgttcaccac catctccagc tgatcacaga 1320
caccagcaaa gcaatgcact cctgaccaag tagattcttt taaaaattag agtgcattac 1380
tttgaatcaa aaatttattt atatttcaag aataaagtac taagattgtg ctcaaaaaaa 1440
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa                             1534

<210> 174
<211> 384
<212> PRT
<213> Homo sapiens

<400> 174
Met Lys Pro His Phe Arg Asn Thr Val Glu Arg Met Tyr Arg Asp Thr
  1               5                  10                  15

Phe Ser Tyr Asn Phe Tyr Asn Arg Pro Ile Leu Ser Arg Arg Asn Thr
             20                  25                  30

Val Trp Leu Cys Tyr Glu Val Lys Thr Lys Gly Pro Ser Arg Pro Pro
         35                  40                  45

Leu Asp Ala Lys Ile Phe Arg Gly Gln Val Tyr Ser Glu Leu Lys Tyr
     50                  55                  60

His Pro Glu Met Arg Phe Phe His Trp Phe Ser Lys Trp Arg Lys Leu
 65                  70                  75                  80

His Arg Asp Gln Glu Tyr Glu Val Thr Trp Tyr Ile Ser Trp Ser Pro
                 85                  90                  95

Cys Thr Lys Cys Thr Arg Asp Met Ala Thr Phe Leu Ala Glu Asp Pro
            100                 105                 110

Lys Val Thr Leu Thr Ile Phe Val Ala Arg Leu Tyr Tyr Phe Trp Asp
        115                 120                 125

Pro Asp Tyr Gln Glu Ala Leu Arg Ser Leu Cys Gln Lys Arg Asp Gly
    130                 135                 140

Pro Arg Ala Thr Met Lys Ile Met Asn Tyr Asp Glu Phe Gln His Cys
145                 150                 155                 160

Trp Ser Lys Phe Val Tyr Ser Gln Arg Glu Leu Phe Glu Pro Trp Asn
                165                 170                 175

Asn Leu Pro Lys Tyr Tyr Ile Leu Leu His Ile Met Leu Gly Glu Ile
            180                 185                 190

Leu Arg His Ser Met Asp Pro Pro Thr Phe Thr Phe Asn Phe Asn Asn
        195                 200                 205

Glu Pro Trp Val Arg Gly Arg His Glu Thr Tyr Leu Cys Tyr Glu Val
    210                 215                 220

Glu Arg Met His Asn Asp Thr Trp Val Leu Leu Asn Gln Arg Arg Gly
225                 230                 235                 240
```

```
Phe Leu Cys Asn Gln Ala Pro His Lys His Gly Phe Leu Glu Gly Arg
                245                 250                 255

His Ala Glu Leu Cys Phe Leu Asp Val Ile Pro Phe Trp Lys Leu Asp
            260                 265                 270

Leu Asp Gln Asp Tyr Arg Val Thr Cys Phe Thr Ser Trp Ser Pro Cys
        275                 280                 285

Phe Ser Cys Ala Gln Glu Met Ala Lys Phe Ile Ser Lys Asn Lys His
    290                 295                 300

Val Ser Leu Cys Ile Phe Thr Ala Arg Ile Tyr Asp Asp Gln Gly Arg
305                 310                 315                 320

Cys Gln Glu Gly Leu Arg Thr Leu Ala Glu Ala Gly Ala Lys Ile Ser
                325                 330                 335

Ile Met Thr Tyr Ser Glu Phe Lys His Cys Trp Asp Thr Phe Val Asp
            340                 345                 350

His Gln Gly Cys Pro Phe Gln Pro Trp Asp Gly Leu Asp Glu His Ser
        355                 360                 365

Gln Asp Leu Ser Gly Arg Leu Arg Ala Ile Leu Gln Asn Gln Glu Asn
    370                 375                 380
```

<210> 175
<211> 3005
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1407)

<400> 175

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gtggataaac aaaaagataa gaatggcgag agaatgatca caataagggg tggcacagaa 180
tcaacaagat atgcagttca actaatcaat gcactcattc aagatcctgc taaggaactg 240
gaagacttga ttcctaaaaa tcatatcaga acacctgcca gcaccaaatc aattcatgct 300
aacttctcat ctggagtagg taccacagca gcttccagta aaaatgcatt tcctttgggt 360
gctccaactc ttgtaacttc acaggcaaca acgttatcta cgttccagcc cgctaataaa 420
cttaataaga atgttccaac aaatgtacgt tcttctttcc cagttttctct acccttagct 480
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cgcttaccca tggcccagtt tggaggaacc ttctcacctt ctcctaacac atggggacca 600
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agccgtctac ctaaccagaa cgggactgtt ttacccctcag agtctgctgg actagctact 720
gccagttgtc ctatcactgt ctcttctgta gttgctgcca gtcagcaact gtgtgtcact 780
aataccggga ctccttcatc agtcagaaag cagttgtttg cctgtgtgcc taagacaagt 840
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cctatgtcaa tgccttttgc atctaactca gaacctgctc cattgacttt gacatcaccc 1260
agaatggttg ctgctgataa tcaggacacc agtaatttac ctcagttagc tgtaccagca 1320
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aaaaa 3005

<210> 176
<211> 832
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (12)

<220>
<221> UNSURE
<222> (449)

<400> 176
Met Gly Arg Gly Gly Cys Asn Ile Thr Ala Ile Xaa Asp Val Thr Gly
1 5 10 15

Ala His Ile Asp Val Asp Lys Gln Lys Asp Lys Asn Gly Glu Arg Met
20 25 30

Ile Thr Ile Arg Gly Gly Thr Glu Ser Thr Arg Tyr Ala Val Gln Leu
35 40 45

Ile Asn Ala Leu Ile Gln Asp Pro Ala Lys Glu Leu Glu Asp Leu Ile
50 55 60

Pro Lys Asn His Ile Arg Thr Pro Ala Ser Thr Lys Ser Ile His Ala
65 70 75 80

Asn Phe Ser Ser Gly Val Gly Thr Thr Ala Ala Ser Ser Lys Asn Ala

```
                    85                  90                  95

Phe Pro Leu Gly Ala Pro Thr Leu Val Thr Ser Gln Ala Thr Thr Leu
            100                 105                 110

Ser Thr Phe Gln Pro Ala Asn Lys Leu Asn Lys Asn Val Pro Thr Asn
        115                 120                 125

Val Arg Ser Ser Phe Pro Val Ser Leu Pro Leu Ala Tyr Pro His Pro
    130                 135                 140

His Phe Ala Leu Leu Ala Ala Gln Thr Met Gln Gln Ile Arg His Pro
145                 150                 155                 160

Arg Leu Pro Met Ala Gln Phe Gly Gly Thr Phe Ser Pro Ser Pro Asn
                165                 170                 175

Thr Trp Gly Pro Phe Pro Val Arg Pro Val Asn Pro Gly Asn Thr Asn
            180                 185                 190

Ser Ser Pro Lys His Asn Asn Thr Ser Arg Leu Pro Asn Gln Asn Gly
        195                 200                 205

Thr Val Leu Pro Ser Glu Ser Ala Gly Leu Ala Thr Ala Ser Cys Pro
    210                 215                 220

Ile Thr Val Ser Ser Val Val Ala Ala Ser Gln Gln Leu Cys Val Thr
225                 230                 235                 240

Asn Thr Arg Thr Pro Ser Ser Val Arg Lys Gln Leu Phe Ala Cys Val
                245                 250                 255

Pro Lys Thr Ser Pro Pro Ala Thr Val Ile Ser Ser Val Thr Ser Thr
            260                 265                 270

Cys Ser Ser Leu Pro Ser Val Ser Ser Ala Pro Ile Thr Ser Gly Gln
        275                 280                 285

Ala Pro Thr Thr Phe Leu Pro Ala Ser Thr Ser Gln Ala Gln Leu Ser
    290                 295                 300

Ser Gln Lys Met Glu Ser Phe Ser Ala Val Pro Pro Thr Lys Glu Lys
305                 310                 315                 320

Val Ser Thr Gln Asp Gln Pro Met Ala Asn Leu Cys Thr Pro Ser Ser
                325                 330                 335

Thr Ala Asn Ser Cys Ser Ser Ser Ala Ser Asn Thr Pro Gly Ala Pro
            340                 345                 350

Glu Thr His Pro Ser Ser Ser Pro Thr Pro Thr Ser Ser Asn Thr Gln
        355                 360                 365

Glu Glu Ala Gln Pro Ser Ser Val Ser Asp Leu Ser Pro Met Ser Met
    370                 375                 380

Pro Phe Ala Ser Asn Ser Glu Pro Ala Pro Leu Thr Leu Thr Ser Pro
385                 390                 395                 400

Arg Met Val Ala Ala Asp Asn Gln Asp Thr Ser Asn Leu Pro Gln Leu
```

405 410 415

Ala Val Pro Ala Pro Arg Val Ser His Arg Met Gln Pro Arg Gly Ser
420 425 430

Phe Tyr Ser Met Val Pro Asn Ala Thr Ile His Gln Asp Pro Gln Ser
435 440 445

Xaa Phe Val Thr Asn Pro Val Thr Leu Thr Pro Pro Gln Gly Pro Pro
450 455 460

Ala Ala Val Gln Leu Ser Ser Ala Val Asn Ile Met Asn Gly Ser Gln
465 470 475 480

Met His Ile Asn Pro Ala Asn Lys Ser Leu Pro Pro Thr Phe Gly Pro
485 490 495

Ala Thr Leu Phe Asn His Phe Ser Ser Leu Phe Asp Ser Ser Gln Val
500 505 510

Pro Ala Asn Gln Gly Trp Gly Asp Gly Pro Leu Ser Ser Arg Val Ala
515 520 525

Thr Asp Ala Ser Phe Thr Val Gln Ser Ala Phe Leu Gly Asn Ser Val
530 535 540

Leu Gly His Leu Glu Asn Met His Pro Asp Asn Ser Lys Ala Pro Gly
545 550 555 560

Phe Arg Pro Pro Ser Gln Arg Val Ser Thr Ser Pro Val Gly Leu Pro
565 570 575

Ser Ile Asp Pro Ser Gly Ser Ser Pro Ser Ser Ser Ser Ala Pro Leu
580 585 590

Ala Ser Phe Ser Gly Ile Pro Gly Thr Arg Val Phe Leu Gln Gly Pro
595 600 605

Ala Pro Val Gly Thr Pro Ser Phe Asn Arg Gln His Phe Ser Pro His
610 615 620

Pro Trp Thr Ser Ala Ser Asn Ser Ser Thr Ser Ala Pro Pro Thr Leu
625 630 635 640

Gly Gln Pro Lys Gly Val Ser Ala Ser Gln Asp Arg Lys Ile Pro Pro
645 650 655

Pro Ile Gly Thr Glu Arg Leu Ala Arg Ile Arg Gln Gly Gly Ser Val
660 665 670

Ala Gln Ala Pro Ala Gly Thr Ser Phe Val Ala Pro Val Gly His Ser
675 680 685

Gly Ile Trp Ser Phe Gly Val Asn Ala Val Ser Glu Gly Leu Ser Gly
690 695 700

Trp Ser Gln Ser Val Met Gly Asn His Pro Met His Gln Gln Leu Ser
705 710 715 720

Asp Pro Ser Thr Phe Ser Gln His Gln Pro Met Glu Arg Asp Asp Ser

```
                725                 730                 735

Gly Met Val Ala Pro Ser Asn Ile Phe His Gln Pro Met Ala Ser Gly
            740                 745                 750

Phe Val Asp Phe Ser Lys Gly Leu Pro Ile Ser Met Tyr Gly Gly Thr
        755                 760                 765

Ile Ile Pro Ser His Pro Gln Leu Ala Asp Val Pro Gly Gly Pro Leu
    770                 775                 780

Phe Asn Gly Leu His Asn Pro Asp Pro Ala Trp Asn Pro Met Ile Lys
785                 790                 795                 800

Val Ile Gln Asn Ser Thr Glu Cys Thr Asp Ala Gln Gln Ile Trp Pro
                805                 810                 815

Gly Thr Trp Ala Pro His Ile Gly Asn Met His Leu Lys Tyr Val Asn
            820                 825                 830
```

<210> 177
<211> 1561
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (1150)

<400> 177

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<210> 178

<211> 314
<212> PRT
<213> Homo sapiens

<400> 178
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Glu Tyr Leu Thr Pro Val Leu Lys Glu Ser Lys Phe Lys Glu Thr Gly
            20   25   30

Val Ile Thr Pro Glu Glu Phe Val Ala Ala Gly Asp His Leu Val His
        35   40   45

His Cys Pro Thr Trp Gln Trp Ala Thr Gly Glu Glu Leu Lys Val Lys
    50   55   60

Ala Tyr Leu Pro Thr Gly Lys Gln Phe Leu Val Thr Lys Asn Val Pro
65   70   75   80

Cys Tyr Lys Arg Cys Lys Gln Met Glu Tyr Ser Asp Glu Leu Glu Ala
                85   90   95

Ile Ser Glu Glu Asp Asp Gly Asp Gly Gly Trp Val Asp Thr Tyr His
            100   105   110

Asn Thr Gly Ile Thr Gly Ile Thr Glu Ala Val Lys Glu Ile Thr Leu
        115   120   125

Glu Asn Lys Asp Asn Ile Arg Leu Gln Asp Cys Ser Ala Leu Cys Glu
    130   135   140

Glu Glu Glu Asp Glu Asp Glu Gly Glu Ala Ala Asp Met Glu Glu Tyr
145   150   155   160

Glu Glu Ser Gly Leu Leu Glu Thr Asp Glu Ala Thr Leu Asp Thr Arg
                165   170   175

Lys Ile Val Glu Ala Cys Lys Ala Lys Thr Asp Ala Gly Gly Glu Asp
            180   185   190

Ala Ile Leu Gln Thr Arg Thr Tyr Asp Leu Tyr Ile Thr Tyr Asp Lys
        195   200   205

Tyr Tyr Gln Thr Pro Arg Leu Trp Leu Phe Gly Tyr Asp Glu Gln Arg
    210   215   220

Gln Pro Leu Thr Val Glu His Met Tyr Glu Asp Ile Ser Gln Asp His
225   230   235   240

Val Lys Lys Thr Val Thr Ile Glu Asn His Pro His Leu Pro Pro Pro
                245   250   255

Pro Met Cys Ser Val His Pro Cys Arg His Ala Glu Val Met Lys Lys
            260   265   270

Ile Ile Glu Thr Val Ala Glu Gly Gly Gly Glu Leu Gly Val His Met
        275   280   285

Tyr Leu Leu Ile Phe Leu Lys Phe Val Gln Ala Val Ile Pro Thr Ile

290 295 300

Glu Tyr Asp Tyr Thr Arg His Phe Thr Met
305 310

<210> 179
<211> 2379
<212> DNA
<213> Homo sapiens

<400> 179
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ccatagttta aaatcgaata gtgccatcat cacagtatat tagtcaaata gaagcttcat 180
cagaaatgta tcccacatag agttttaaga cttggattct ctttctgccct tgttaatctc 240
caactaatta ctacagattg acacgttttt aattagctgt cctttgtaag aagtcaggaa 300
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ccaaacacag atttctcttc tagcacttta gaattgatcc ttgaagtctc tcctggttca 600
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<210> 180
<211> 67
<212> PRT
<213> Homo sapiens

<400> 180
Met Gly Asp Trp Thr Trp Leu Tyr Arg Val Gly Cys Phe Phe Leu Ser

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  1               5                  10                  15

Ala Ile Thr Cys His Ser Ile Leu Cys Ser Pro Arg Arg Met Val Ser
             20                  25                  30

Ala Phe Ser Cys Arg Cys Met Pro Ser Glu Pro Arg Asn Thr Lys Tyr
         35                  40                  45

Ile Gly Leu Lys Arg Glu Thr Gln Gly Cys Gln Phe Ser Val Gly Leu
     50                  55                  60

Pro Leu Pro
 65
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<210> 181
<211> 1607
<212> DNA
<213> Homo sapiens

<400> 181

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attttcatgc tttctttagt atttattacc atcataccga ttcaaactat tttattgtct 180
aatacattag cattttgtat tttgatggaa attgttacag aatttaaaga tttgatgaaa 240
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gttcttgctg cactattttt ttttaaatat ttattccagt tattctaatt cagaagcatt 360
cttttcaagt aacagcagca cttgtgaaag gaaaaaaaaa tgcacatgtt tcttagtagg 420
ttactaaatt tgtacaatta attaagattt tagccatcag tgagtttgaa aagggaaatg 480
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<210> 182
<211> 58
<212> PRT
<213> Homo sapiens

<400> 182

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Met Tyr Leu Phe Ser Ala Leu Lys Cys Phe Gln Lys Ile Lys Leu Leu
  1               5                  10                  15

Leu Phe Val Cys Phe Phe Asn Arg Asn Val Asp Gly Glu Ile Gly Gly
             20                  25                  30
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Asn Leu Ser Ile Gly Thr Ala Thr Leu Ser Ser Leu Gly Leu Lys Glu
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Lys Val Asn Leu Met Pro Arg Gly Glu Gln
     50                  55


<210> 183
<211> 2695
<212> DNA
<213> Homo sapiens

<400> 183
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ttaaggtgta ttggcattcc catggttccc aagaaaattt tagatgactt tgattaaaaa 600
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<210> 184
<211> 256
<212> PRT
<213> Homo sapiens

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<221> UNSURE
<222> (64)

<400> 184
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Phe Val Leu Gly Asn Phe Ala Asn Gly Phe Ile Val Leu Val Asn Ser
20 25 30

Ile Glu Trp Val Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu
35 40 45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Xaa
50 55 60

His Trp Tyr Ala Thr Val Leu Asn Pro Gly Ser Tyr Ser Leu Gly Val
65 70 75 80

Arg Ile Thr Thr Ile Asn Ala Trp Ala Val Thr Asn His Phe Ser Ile
85 90 95

Trp Val Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
100 105 110

Phe Ser Asn Phe Ile Phe Leu His Leu Lys Arg Arg Ile Lys Ser Val
115 120 125

Ile Pro Val Ile Leu Leu Gly Ser Leu Leu Phe Leu Val Cys His Leu
130 135 140

Val Val Val Asn Met Asp Glu Ser Met Trp Thr Lys Glu Tyr Glu Gly
145 150 155 160

Asn Val Ser Trp Glu Ile Lys Leu Ser Asp Pro Thr His Leu Ser Asp
165 170 175

Met Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu
180 185 190

Leu Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
195 200 205

Met Gln Phe His Gly Lys Gly Ser Pro Asp Ser Asn Thr Lys Val His
210 215 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Phe Ala Val
225 230 235 240

Tyr Phe Leu Ser Leu Ile Thr Ser Ile Trp Asn Phe Arg Arg Arg Leu
245 250 255

<210> 185

<211> 1111
<212> DNA
<213> Homo sapiens

<400> 185
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 1111

<210> 186
<211> 290
<212> PRT
<213> Homo sapiens

<400> 186
Met Tyr His Gly Met Asn Pro Ser Asn Gly Asp Gly Phe Leu Glu Gln
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Gln Gln Gln Gln Gln Gln Pro Gln Ser Pro Gln Arg Leu Leu Ala Val
20 25 30

Ile Leu Trp Phe Gln Leu Ala Leu Cys Phe Gly Pro Ala Gln Leu Thr
35 40 45

Gly Gly Phe Asp Asp Leu Gln Val Cys Ala Asp Pro Gly Ile Pro Glu
50 55 60

Asn Gly Phe Arg Thr Pro Ser Gly Gly Val Phe Phe Glu Gly Ser Val
65 70 75 80

Ala Arg Phe His Cys Gln Asp Gly Phe Lys Leu Lys Gly Ala Thr Lys
85 90 95

Arg Leu Cys Leu Lys His Phe Asn Gly Thr Leu Gly Trp Ile Pro Ser
100 105 110

Asp Asn Ser Ile Cys Val Gln Glu Asp Cys Arg Ile Pro Gln Ile Glu
115 120 125

Asp Ala Glu Ile His Asn Lys Thr Tyr Arg His Gly Glu Lys Leu Ile
130 135 140

Ile Thr Cys His Glu Gly Phe Lys Ile Arg Tyr Pro Asp Leu His Asn
145 150 155 160

Met Val Ser Leu Cys Arg Asp Asp Gly Thr Trp Asn Asn Leu Pro Ile
165 170 175

Cys Gln Gly Cys Leu Arg Pro Leu Ala Ser Ser Asn Gly Tyr Val Asn
180 185 190

Ile Ser Glu Leu Gln Thr Ser Phe Pro Val Gly Thr Val Ile Ser Tyr
195 200 205

Arg Cys Phe Pro Gly Phe Lys Leu Asp Gly Ser Ala Tyr Leu Glu Cys
210 215 220

Leu Gln Asn Leu Ile Trp Ser Ser Ser Pro Pro Arg Cys Leu Ala Leu
225 230 235 240

Glu Gly Gly Arg Pro Glu His Leu Phe Pro Val Leu Tyr Phe Pro His
245 250 255

Ile Arg Leu Ala Ala Ala Val Leu Tyr Phe Cys Pro Val Leu Lys Ser
260 265 270

Ser Pro Thr Pro Ala Pro Thr Cys Ser Ser Thr Ser Thr Thr Thr Ser
275 280 285

Leu Phe
290

<210> 187
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 187
antgacttca gttgagggca agtctctgg 29

<210> 188
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<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 188
tncagaaaga ctgcagggat tcgggacaa 29

<210> 189
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<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

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<400> 189
antcatcact acacgtcttc tcccctaca 29

<210> 190
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<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<400> 190
gnctgagtat gttgtggaat gggctgcaa 29

<210> 191
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<212> DNA
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<220>
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<222> (2)
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<400> 191
tngtgactgt atacctgcaa cctcaatgc 29

<210> 192
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<400> 213
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<400> 235
gtttctggaa tgcgggtg 18

<210> 236
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<400> 236
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<400> 253
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<210> 254
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<223> biotinylated phosphoaramidite residue

<400> 266
gngctgggag tactgctaga gggtgtgga 29

<210> 267
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 267
cnctctttgg ctgtacacga acttgctcc 29

<210> 268
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 268
gngggtggca cagcagagaa agactccat 29

<210> 269
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 269
tngcatcttc accgccagca tcagttttg 29

<210> 270
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 270
cnaactctgt aaagccaagt ccagtcacc 29

<210> 271
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 271
tnctgaggtt gcctccaatt tctccatct 29

<210> 272
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 272
gntgacaaac caaaaataac aaagacccc 29

<210> 273
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoaramidite residue

<400> 273
gntacatctt tcatccacag agggcatcc 29

<210> 274
<211> 51
<212> PRT
<213> Homo sapiens

<400> 274
Met Val Leu Phe Phe Phe Phe Phe Ser Leu Ala Val Pro Cys Ser Leu
1 5 10 15

Pro Ser Leu Asp Val Cys Thr Asn Tyr Ser Leu Glu Leu Phe Ser Leu
20 25 30

Ala Leu Gln Leu Leu Pro Pro Thr Ser Ser Pro Ala Pro Pro Ile His
35 40 45

Ser Phe Ala
50

<210> 275
<211> 82
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (48)

<400> 275
Met Asn Val Tyr Thr His Phe Arg Gly Ser His Gln Gly Gln Val Gln
1 5 10 15

Gly Ser Gly Pro Ser Gly Trp Cys Leu Gln Gly Asn Phe Gly Pro Ser
20 25 30

Leu Phe Ser Asp Trp Arg Ser Pro Trp Pro Ala Ser Phe His Thr Xaa

```
         35                  40                  45

Leu Leu Ala Gly Thr Gly Leu Ala Pro Thr Phe Pro Ala Ser Ser Val
      50                  55                  60

Val Ala Ser Leu Pro Glu Pro Gly Ser Ser Ser Gly Pro Thr Ser Lys
 65                  70                  75                  80

Cys His
```

<210> 276
<211> 130
<212> PRT
<213> Homo sapiens

<400> 276

```
Met Asp Asp Met Leu Ser Thr Arg Ser Ser Thr Leu Thr Glu Asp Gly
  1               5                  10                  15

Ala Lys Ser Ser Glu Ala Ile Lys Glu Ser Ser Lys Phe Pro Phe Gly
             20                  25                  30

Ile Ser Pro Ala Gln Ser His Arg Asn Ile Lys Ile Leu Glu Asp Glu
         35                  40                  45

Pro His Ser Lys Asp Glu Thr Pro Leu Cys Thr Leu Leu Asp Trp Gln
      50                  55                  60

Asp Ser Leu Ala Lys Arg Cys Val Cys Val Ser Asn Thr Ile Arg Ser
 65                  70                  75                  80

Leu Ser Phe Val Pro Gly Asn Asp Phe Glu Met Ser Lys His Pro Gly
                 85                  90                  95

Leu Leu Leu Ile Leu Gly Lys Leu Ile Leu Leu His His Lys His Pro
            100                 105                 110

Glu Arg Lys Gln Ala Pro Leu Thr Tyr Glu Lys Glu Glu Glu Gln Asp
        115                 120                 125

Gln Gly
    130
```

<210> 277
<211> 111
<212> PRT
<213> Homo sapiens

<400> 277

```
Met Leu Gly Tyr Arg Lys Ile Asn Ala Lys Ala Lys His Pro Val Pro
  1               5                  10                  15

Val Leu Glu Val Pro Arg Gly Arg Met Pro Arg Leu Arg Lys Lys Leu
             20                  25                  30

Leu Ser Trp Pro Gly Gln Arg Glu Glu Glu Pro Arg Val Gly Val Val
         35                  40                  45
```

```
Thr His Leu Lys Ile Thr Met Ser Ser Gly Arg Cys Ala Ile Val Leu
     50                  55                  60

Gly Leu Gly Gly Cys Gly Arg Pro Thr Leu Gly Met Gln Ser Ser Asp
 65                  70                  75                  80

Ser Val Ser Leu Ala Thr Leu Gly Leu Leu Thr Thr Leu Pro Val Leu
                 85                  90                  95

Leu Thr Leu Arg Glu Gly Ser Cys Trp Val Asp Ser Arg Gln Ala
            100                 105                 110


<210> 278
<211> 104
<212> PRT
<213> Homo sapiens

<400> 278
Met Glu Asn Ser Leu Leu Ala Met Phe His Glu Ser Arg Ile Leu His
  1               5                  10                  15

Leu Trp Ala Ala Leu Phe Leu Val Glu Leu Leu Gln Glu Val Pro Ile
            20                  25                  30

Met Thr Cys Ser Asn Ala Asn Thr Pro Ser Val Asn Thr Gly Tyr Phe
        35                  40                  45

Lys Leu Ser Ser Val Ala Thr Thr Leu Arg Gln Gln Gln Leu Val Leu
     50                  55                  60

Glu Ile Ser Leu Met Ser Val Pro Pro Gly Cys Gly Pro Leu Leu Pro
 65                  70                  75                  80

Val Leu Ile Pro Val Ala Ser Phe Cys Cys Ile Ile Thr Ile Trp Leu
                 85                  90                  95

Leu Ile Leu Met Phe Glu Lys Asp
            100


<210> 279
<211> 147
<212> PRT
<213> Homo sapiens

<400> 279
Met Ala Ser Pro Ser Gly Leu Cys Val Leu Val Arg Leu Pro Lys Leu
  1               5                  10                  15

Ile Cys Gly Gly Lys Thr Leu Pro Arg Thr Leu Leu Asp Ile Leu Ala
            20                  25                  30

Asp Gly Thr Ile Leu Lys Val Gly Val Gly Cys Ser Glu Asp Ala Ser
        35                  40                  45

Lys Leu Leu Gln Asp Tyr Gly Leu Val Val Arg Gly Cys Leu Asp Leu
     50                  55                  60
```

```
Arg Tyr Leu Ala Met Arg Gln Arg Asn Asn Leu Leu Cys Asn Gly Leu
 65                  70                  75                  80

Ser Leu Lys Ser Leu Ala Glu Thr Val Leu Asn Phe Pro Leu Asp Lys
                85                  90                  95

Ser Leu Leu Leu Arg Cys Ser Asn Trp Asp Ala Glu Thr Leu Thr Glu
            100                 105                 110

Asp Gln Val Ile Tyr Ala Ala Arg Asp Ala Gln Ile Ser Val Ala Leu
        115                 120                 125

Phe Leu His Leu Leu Gly Tyr Pro Phe Ser Arg Asn Ser Pro Gly Glu
    130                 135                 140

Lys Lys Arg
145
```

<210> 280
<211> 176
<212> PRT
<213> Homo sapiens

<400> 280

```
Met Thr Asp Cys Leu Val Ile Lys His Phe Leu Arg Lys Ile Ile Met
  1               5                  10                  15

Val His Pro Lys Val Arg Phe His Phe Ser Val Lys Val Asn Gly Ile
             20                  25                  30

Leu Ser Thr Glu Ile Phe Gly Val Glu Asn Glu Pro Thr Leu Asn Leu
         35                  40                  45

Gly Asn Gly Ile Ala Leu Leu Val Asp Ser Gln His Tyr Val Ser Arg
     50                  55                  60

Pro Asn Phe Gly Thr Ile Glu Ser His Cys Ser Arg Ile His Pro Val
 65                  70                  75                  80

Leu Gly His Pro Val Met Leu Phe Ile Pro Glu Asp Val Ala Gly Met
                85                  90                  95

Asp Leu Leu Gly Glu Leu Ile Leu Thr Pro Ala Ala Ala Leu Cys Pro
            100                 105                 110

Ser Pro Lys Val Ser Ser Asn Gln Leu Asn Arg Ile Ser Ser Val Ser
        115                 120                 125

Ile Phe Leu Tyr Gly Pro Leu Gly Leu Pro Leu Ile Leu Ser Thr Trp
    130                 135                 140

Glu Gln Pro Met Thr Thr Phe Phe Lys Asp Thr Ser Ser Leu Val Asp
145                 150                 155                 160

Trp Lys Ile Pro Phe Val Tyr Asp Thr Gln Phe Gly Ser Gln Phe Gly
                165                 170                 175
```

<210> 281

<211> 89
<212> PRT
<213> Homo sapiens

<400> 281
Met Gly Ser Leu Ser Thr Ala Asn Val Glu Phe Cys Leu Asp Val Phe
1 5 10 15

Lys Glu Leu Asn Ser Asn Asn Ile Gly Asp Asn Ile Phe Phe Ser Ser
20 25 30

Leu Ser Leu Leu Tyr Ala Leu Ser Met Val Leu Leu Gly Ala Arg Gly
35 40 45

Glu Thr Ala Glu Gln Leu Glu Lys Val Leu His Phe Ser His Thr Val
50 55 60

Asp Ser Leu Lys Pro Gly Phe Lys Asp Ser Pro Lys Cys Ser Gln Ala
65 70 75 80

Gly Arg Ile His Ser Glu Phe Gly Val
85

<210> 282
<211> 115
<212> PRT
<213> Homo sapiens

<400> 282
Met Val Thr Gly Met Leu Ile Ser Ser Thr Arg Gly Ser Ser Asp Gly
1 5 10 15

Arg Asn Cys Ser Ala Ile Leu Val Pro Val Ser Pro Val Gly Arg Gln
20 25 30

Pro Leu Tyr Leu Thr Ser Arg Pro Gly Asp Trp Ser Gln Gly Tyr Cys
35 40 45

Thr Thr Gly Gln Phe Pro Ala Ile Val Arg Lys Glu Thr Pro Glu Leu
50 55 60

Asn Gly Arg Asp Ile Pro Ala Val Phe Asn Ile Thr Pro Met Pro Phe
65 70 75 80

Val Arg Leu Pro Cys Thr Glu Ile Thr Trp Arg Ala Ser Cys Arg Leu
85 90 95

Tyr Leu Arg Thr Leu Val Lys Tyr Leu Leu Ser Phe Leu Ala Ala Arg
100 105 110

Met Gln Lys
115

<210> 283
<211> 189
<212> PRT
<213> Homo sapiens

<400> 283
Met Val His Cys Pro His Glu Leu Leu Gln Met Pro Leu Ser Leu Phe
1 5 10 15

Ser Gln Arg Ser Trp Val Thr Gln Cys Leu Asp Thr Trp Lys Thr Cys
20 25 30

Thr Leu Ile Thr Gln Arg His Leu Ala Ser Asp His Leu Pro Ser Glu
35 40 45

Phe Leu Leu Val Gln Leu Gly Tyr His Pro Leu Thr His Gln Ala Ala
50 55 60

Pro His Leu Pro Leu Leu Leu Leu Trp Gln Val Phe Pro Ala Tyr Gln
65 70 75 80

Glu Gln Gly Phe Ser Cys Lys Gly Gln Leu Leu Leu Gly Leu Leu Val
85 90 95

Ser Thr Asp Asn Ile Phe Leu Pro Ile Leu Gly Gln Ala Pro Gln Thr
100 105 110

His Pro Leu Leu Pro His Gln Arg Trp Ala Asn Gln Lys Glu Ser Val
115 120 125

Pro Val Lys Ile Glu Arg Tyr Leu Pro Gln Leu Glu Gln Arg Asp Trp
130 135 140

Pro Glu Phe Gly Lys Glu Gly Leu Leu His Lys Pro Arg Arg Gly Pro
145 150 155 160

Val Leu Ser Leu Pro Leu Asp Thr Val Glu Ser Gly His Leu Val Ser
165 170 175

Met Leu Cys Gln Lys Ala Tyr Gln Val Gly Arg Asn Leu
180 185